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New York : American Numismatic Society, 1920-

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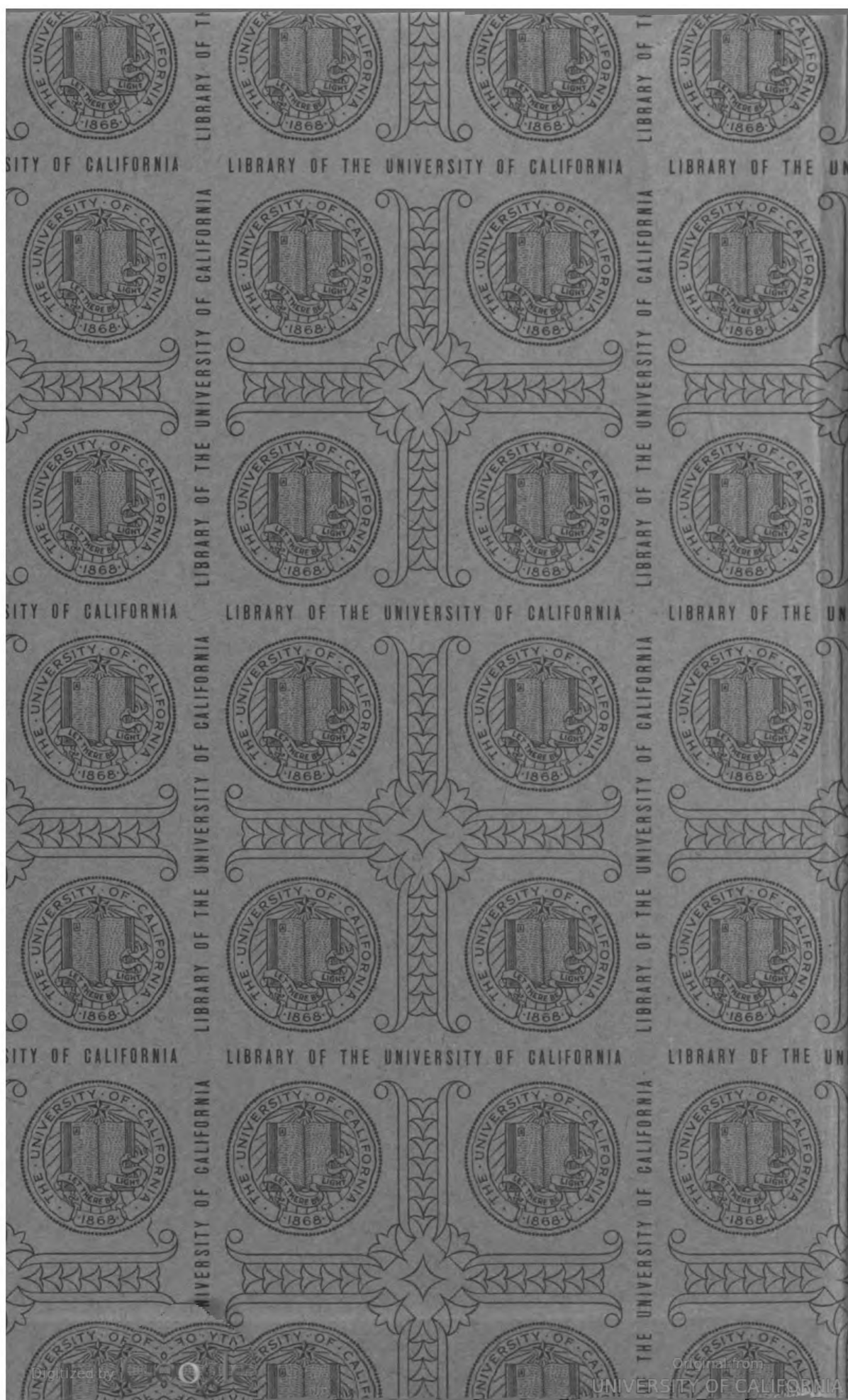


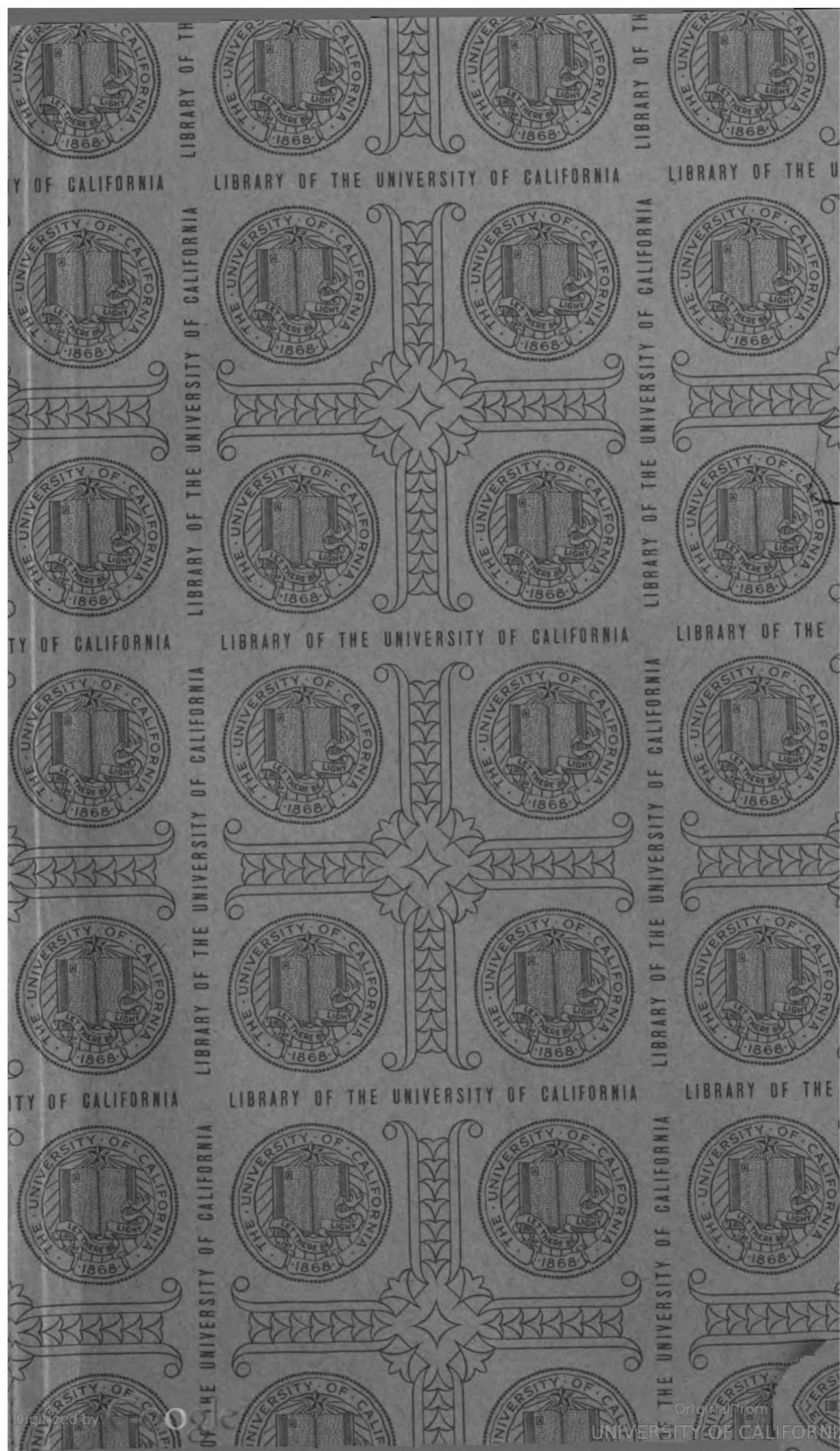
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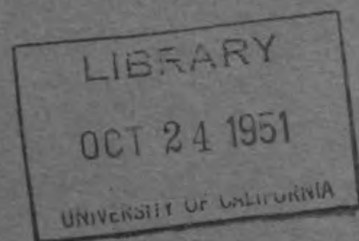
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NUMISMATIC NOTES AND MONOGRAPHS

No. 121

FĀTIMID COINS

IN THE COLLECTIONS OF THE UNIVERSITY
MUSEUM, PHILADELPHIA, AND THE
AMERICAN NUMISMATIC SOCIETY

By GEORGE C. MILES



THE AMERICAN NUMISMATIC SOCIETY

Broadway at 156th Street, New York

1951

THE AMERICAN NUMISMATIC SOCIETY

Founded 1858 • Incorporated 1865

HEADQUARTERS

BROADWAY BETWEEN 155TH & 156TH STREETS

NEW YORK 32, N. Y.

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NUMISMATIC NOTES AND MONOGRAPHS

Number 121

NUMISMATIC NOTES AND MONOGRAPHS

is devoted to essays and treatises on subjects relating
to coins, paper money, medals and decorations.

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Fāṭimid Coins

in the Collections of the University Museum, Philadelphia,
and the American Numismatic Society

By GEORGE C. MILES



THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156 TH STREET
NEW YORK
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FĀṬIMID COINS
IN THE COLLECTION OF THE UNIVERSITY MUSEUM,
PHILADELPHIA,
AND OF THE AMERICAN NUMISMATIC SOCIETY

In the former Yacoub Artin Pasha Collection, now the property of the University Museum in Philadelphia,¹ there is a magnificent series of 343 Fāṭimid dinars, most of them in exceptionally beautiful condition. Combined with 194 Fāṭimid coins in the Museum of the American Numismatic Society, the total of 537 pieces constitutes surely one of the finest collections of the coins of the Fāṭimid Caliphs that has ever been brought together.² The generous temporary loan of the Artin Pasha Collection to the American Numismatic Society affords the opportunity to publish the combined collections in one article. Most Fāṭimid gold issues are relatively common, and at this date, nearly one hundred and fifty years since the beginning of serious Islamic numismatic study, it is seldom that one meets with an unpublished type; it is therefore the more remarkable that in the present publication there are nearly 140 inedited issues.

In order to save space the descriptions have been reduced to the minimum consistent with accuracy. Published types

¹ Presented by Robert C. H. Brock. Cf. George C. Miles, "Some Early Arab Dinars" in *The American Numismatic Society Museum Notes*, III (1948), p. 93. The Umayyad and early 'Abbāsid dinars in the University Museum collection were published in that article. Other 'Abbāsid coins in the same collection appear in my *Rare Islamic Coins* (ANS *Numismatic Notes and Monographs*, no. 116, New York, 1950).

² The total contrasts with 296 in the published catalogues of the British Museum, 335 in that of the former Khedivial Library in Cairo, and 386 in the Bibliothèque Nationale in Paris.

̄M870551

are identified by reference to a single previous publication, wherever possible to the most accessible works, *i.e.* the British Museum, Paris and Khedivial catalogues (in that order). In cases where these collections lack the particular type it has been necessary to refer to other publications.³ Unpublished types (marked *) are either (a) described in full, or (b) compared to common published types in which the legends and their arrangement are identical to the piece in question except in the detail of mint or date, or both mint and date. Thus, all citations preceded by "cf." imply, not that the reference describes an identical issue but that, except for the substitution of the specific date and mint, the pattern of the formulary inscriptions is the same.

The location of each coin is indicated in the last column of the tables by "UM" for the University Museum, or "ANS" for the American Numismatic Society. The coins in the latter collection are of various origin. The great majority were formerly in the late Edward T. Newell's collection; of

³ The following abbreviations are used in citing references: BM IV & IX = Stanley Lane-Poole, *Catalogue of Oriental Coins in the British Museum* (London, 1879 & 1889); BARDO = J. Farrugia de Candia, "Monnaies Fatimites du Musée du Bardo," *Revue Tunisienne*, 1936; BARDO, SUPPL. = J. Farrugia de Candia, "Monnaies Fātimides du Musée du Bardo (Premier supplément)," *Revue Tunisienne*, 1948; CASANOVA = P. Casanova, *Inventaire sommaire de la Collection des Monnaies Musulmanes de S. A. la Princesse Ismaïl* (Paris, 1896); CASANOVA, RN 1894 = P. Casanova, "Dinars inédits du Yémen," *Revue Numismatique*, 1894; CORA = Luigi Cora, "Uno sguardo alla monetazione degli arabi in Sicilia," *Bollettino del Circolo Numismatico Napoletano*, 1946, pp. 17-49; DORN I = L'Académicien (Bernhard) Dorn, *Inventaire des monnaies des Khalifes Orientaux et de plusieurs autres dynasties, Classes I-IX* (Saint-Petersbourg, 1877); FRAEHN, SUPPL. = Bernh. Dorn, Ch. M. *Fraehnii Nova Supplementa ad recensionem Numorum muhammedanorum...* (Petropoli, 1855); KHEDIVIAL = Stanley Lane-Poole, *Catalogue of the Collection of Arabic Coins preserved in the Khedivial Library at Cairo* (London, 1897); LANE-POOLE, CALVERT = S. Lane-Poole, "Fasti Arabici, II, Mr. Calvert's Collection," *Numismatic Chronicle*, 1885, pp. 229-236; MARKOV = A. Markov, *Inventarnii Katalog musulmanskikh monet* (St. Petersburg, 1896); MILAN = Conte Carlo Ottavio Castiglioni, *Monete Cufiche dell' I. R. Museo di Milano* (Milano, 1819); NZ 1876 = Dr. Otto

the remainder, 11 were in the late Howland Wood's collection, three belonged to J. B. Nies, three were donated by Mrs. Edward T. Newell, 11 are on permanent loan from the Metropolitan Museum of Art (ex Darius O. Mills, Farman and Durkee Collections), and the rest were acquired over the years by purchase. Among the coins in the ex-Newell collection are 48 quarter-dinars from a hoard of unfortunately undetermined provenance consisting of 152 pieces, all quarter-dinars and including, aside from the Fāṭimid specimens, coins of the Umayyads of Spain (Hishām II), the Dhū'l-Nūnids, the Hūdids and Tujībids of Saragossa, and the Banū Ṣumādīḥ of Almeria. These coins are designated by the letter "H."

In the course of editing the present specimens the author has had occasion to compile a quite extensive corpus of published and unpublished Fāṭimid coins. This corpus is, of course, derived from many more sources than those cited

Blau, "Nachlese orientalischer Münzen," *Numismatische Zeitschrift*, 1876; NASSAR = N. G. Nassar, "The Arabic Mints in Palestine and Trans-Jordan," *The Quarterly of the Department of Antiquities in Palestine*, 1948, pp. 121-127; ØSTRUP = J. Østrup, *Catalogue des monnaies arabes et turques du Cabinet Royal des Médailles du Musée National de Copenhague* (Copenhagen, 1938); PALERMO = Can. Bartolomeo Lagumina, *Catalogo delle Monete Arabe esistenti nella Biblioteca Comunale di Palermo* (Palermo, 1892); PARIS = Henri Lavoix, *Catalogue des Monnaies Musulmanes de la Bibliothèque Nationale: Égypte et Syrie* (Paris 1896); RN 1935 = R. Cottevieille-Giraudet, "La Collection Decourdemanche (Monnaies Musulmanes) au Cabinet des Médailles (Suite)," *Revue Numismatique*, 1935; RNB 1864 = "Quatrième lettre de ... Bartholomaei à M. F. Soret, sur des monnaies orientales inédites," *Revue de la Numismatique Belge*, 1864, pp. 289-359; SCHULMAN = sales catalogues of J. Schulman of Amsterdam, referred to by date; SORET À FRAEHN = "Lettre à Fraehn, sur les exemplaires inédits de la collection des monnaies orientales de Mr. Frédéric Soret," *Mémoires Soc. Imp. d'archéologie de St. Petersbourg*, 1851; TIESENHAUSEN, MÉLANGES II = W. Tiesenhausen, "Mélanges de Numismatique Orientale," *Revue de la Numismatique Belge*, 1875; ZAMBAUR, CONTRIBUTIONS II = E. von Zambaur, "Contributions à la Numismatique Orientale," *Numismatische Zeitschrift*, 1905; ZIA = Aḥmed Zia, *Meskūkāt-i Islāmīyeh Taqīmī* (Constantinople, 1910).

in the footnote above. A by-product of this compilation is a list of known Fāṭimid mints and dates, which is appended at the end of the catalogue with the dual purpose of providing numismatists and collectors with a convenient check-list of Fāṭimid issues, and historians with suggestive ar-

No.	Metal	Mint	Date	Di.	Weight
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ABŪ-MUḤAMMAD ʿUBAYDULLĀH AL-MAHDĪ

297-322 A.H. = 909-934 A.D.

1	A'	Al-Qayrawān	303	19.5	4.13
*2	1/4 A'	No Mint	311 ?	14	1.04
*3	A'	No Mint	314	20	4.12
4	1/4 A'	No Mint ?	?	15	1.00
5	1/4 A'	No Mint ?	?	14	1.02
6	1/4 A'	No Mint ?	?	14.5	1.03

ABŪ'L-QĀSĪM MUḤAMMAD AL-QĀ'IM BI-AMR ALLĀH

322-334 A.H. = 934-946 A.D.

*7	1/4 A'	Al-Mahdiyyah ?	330 ?	16.5	1.01
8	1/4 A'	No Mint ?	?	15	1.01
*9	Æ fraction	Al-Qayrawān	331	18	0.91
10	Æ fraction	Al-Mahdiyyah	329	17	1.37
11	Æ fraction	Mint ?	?	17	1.75

ABŪ-ṬĀHIR ISMĀ'ĪL AL-MANṢŪR

334-341 A.H. = 946-953 A.D.

12	1/4 A'	Ṣiqilliyah	337	16	1.02
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chaeological data reflecting the rise, spread, contraction and ultimate extinction of the great Shi'ite religio-political heresy in North Africa and Syria.

Weights are given in grams, diameters in millimeters. Specimens illustrated in the plates have *italicized* numbers.

Reference	Description	Collection
Paris, 65.	•• above الله rev. area; • • beneath rev. area.	ANS
Cf. BM IV, 4-5.		UM
Cf. BM IV, 1.	• beneath rev. area.	ANS
Cf. BM IV, 4-5.		ANS
Cf. BM IV, 4-5.		UM
Cf. BM IV, 4-5.		UM
Cf. BM IV, 12.		ANS
Cf. BM IV, 12.		ANS
Cf. BM IV, 14.	Numerous floral letters.	ANS
BM IV, 15.		ANS
Cf. BM IV, 14.		ANS
Cora, p. 41.	Obv.: الامام لا اله الا الله النصور بالله Marg.: mint-date. Rev.: اسمعيل محمد رسول الله امير المؤمنين Marg.: Qur'an, IX, 33.	ANS

No.	Metal	Mint	Date	Di.	Weight
13	<i>A'</i>	Al-Manṣūriyah	341	22	4.03
14	<i>A'</i>	Al-Mahdiyyah	337 Muḥarram	23	4.10
*15	1/4 <i>A'</i>	Al-Mahdiyyah	338 Jumādā II	17	1.03
*16	<i>A'</i> fraction	Effaced	339?	16	1.39

ABŪ-TAMĪM MA'ADD AL-MU'IZZ LI-DĪN ALLĀH

341-365 A.H. = 953-975 A.D.

17	1/4 <i>A'</i>	Şiqilliyah	343	15	1.03
18	1/4 <i>A'</i>	Şiqilliyah	344	15	1.02
19	1/4 <i>A'</i>	Şiqilliyah	344	15	1.02
20	1/4 <i>A'</i>	Şiqilliyah	345	15	1.00
*21	1/4 <i>A'</i>	Şiqilliyah	361	16	1.03

Reference	Description	Collection
Paris, 88.		UM
Bardo, 23.	Date written: شهر المحرم من سنة ...	UM
Cf. Palermo, p. 143, no. 13, digit lacking.	Date written: شهر جمادى الاخر من سنة ..	UM
Cf. Østrup, 1940.	Obv.: عبد الله اسماعيل لا اله الا الله وحده لا شريك له ابو الطاهر Marg.: Qur'ān, IX, 33. Rev.: الامام النصور بالله محمد رسول الله امير المؤمنين Marg.: mint-date. The date is very curiously written, but is probably correctly read. The dies are well engraved with fine ornamental let- ters.	ANS
Paris, 95.		UM
Paris, 96.		UM
Paris, 96.	Different dies.	UM
Palermo, p. 145, no. 17		UM
Cf. Østrup, 1945.		UM

No.	Metal	Mint	Date	Di.	Weight
22	1/4 <i>A'</i>	Şiqilliyah	363	15	1.01
*23	1/4 <i>A'</i>	Şiqilliyah	No date	13	1.02
*24	1/4 <i>A'</i>	Şiqilliyah	No date	13	0.95
*25	1/4 <i>A'</i>	Ṭarābulus	364	17	0.98
26	1/4 <i>A'</i>	Ṭarābulus	365	16	1.03
27	1/4 <i>A'</i>	Ṭarābulus	365	18	1.02
28	<i>A'</i>	Filastīn	359	24	4.18
29	<i>A'</i>	Miṣr	358	23.5	4.14
*30	<i>A'</i>	Miṣr	359 Rajab	23	4.17
31	<i>A'</i>	Miṣr	359 Sha'bān	24	3.99
32	<i>A'</i>	Miṣr	359 Ramādān	24	4.11
*33	<i>A'</i>	Miṣr	360 Jumādā I	24	4.17
34	<i>A'</i>	Miṣr	361 Jumādā I	23	4.18
35	<i>A'</i>	Miṣr	361 Jumādā I	23	4.09
36	<i>A'</i>	Miṣr	361 Jumādā I	22	3.86
37	<i>A'</i>	Miṣr	361	24	4.14
38	<i>A'</i>	Miṣr	362 Muḥarram	22	4.09
39	<i>A'</i>	Miṣr	362 Muḥarram	22	4.15
40	<i>A'</i>	Miṣr	362 Jumādā II	22	4.17
41	<i>A'</i>	Miṣr	362	22	4.17
42	<i>A'</i>	Miṣr	363	22	4.10
43	<i>A'</i>	Miṣr	363	22	4.13

Reference	Description	Collection
Østrup 1945. Cf. Paris, 95.	Crude epigraphy; abbreviated legends. There are only three letters after <i>sanah</i> .	UM ANS
Cf. Paris, 95. Cf. Khedivial, 996. Khedivial, 996.	As above but different dies. Digit: خمسة. <i>Al-Mu'minīn</i> ends with floral flourish.	ANS UM UM
Khedivial, 996. Paris, 98. BM IV, 29.	Similar, but different dies. The BM description of this type is misleading in implying that there is a pellet in the center of the obv. and rev. There is none.	UM UM UM
Cf. BM IX, 30 ^a .	Date written: في شهر رجب من سنة ...	UM
BM IX, 30 ^a .		UM
Khedivial, 970.		UM
Cf. BM IV, 31.	Date written: في جمادى الاول سنة ... The rev. middle marg. reads: etc. (<i>sic</i> !) دعا الامام معز	UM
BM IV, 34.	Date written: في جمادى الاول سنة ...	UM
BM IV, 34.	Same dies.	UM
BM IV, 34.	Same dies.	ANS
Khedivial, 977. BM IV, 36.	Date written: في المحرم سنة اثنين ...	UM ANS
BM IV, 36.	Similar but different dies.	UM
BM IV, 37.	Date written: في جمادى الاخر سنة اثنين ...	UM
Casanova, 1277 (not described). BM IV, 38. BM, IV, 38.	As above, but without indication of month. Digit: اثنتين Different dies.	UM UM ANS

No.	Metal	Mint	Date	Di.	Weight
44	<i>A'</i>	Miṣr	364	21	4.01
45	<i>A'</i>	Miṣr	364	21	3.97
46	<i>A'</i>	Miṣr	365	22	3.99
47	<i>A'</i>	Miṣr	365	22	4.09
48	<i>A'</i>	Al-Manṣūriyah	342	23	4.12
49	<i>A'</i>	Al-Manṣūriyah	346	23	4.16
50	<i>A'</i>	Al-Manṣūriyah	347	22	4.02
*51	1/4 <i>A'</i>	Al-Manṣūriyah	351	15	1.03
52	1/4 <i>A'</i>	Al-Manṣūriyah	352	14.5	1.01
53	<i>A'</i>	Al-Manṣūriyah	353	20.5	4.07
*54	<i>A'</i>	Al-Manṣūriyah	357	20	4.01
55	<i>A'</i>	Al-Manṣūriyah	360	20	4.03
56	<i>A'</i>	Al-Manṣūriyah	360	21	4.01
*57	<i>A'</i>	Al-Manṣūriyah	360	21	4.13
58	<i>A'</i>	Al-Manṣūriyah	361	20.5	4.11
59	1/4 <i>A'</i>	Al-Manṣūriyah	361	16	1.01
60	<i>A'</i>	Al-Manṣūriyah	362	21	4.15
61	<i>A'</i>	Al-Manṣūriyah	362	22	4.12
62	1/4 <i>A'</i>	Al-Manṣūriyah	362	15	1.00
63	1/4 <i>A'</i>	Al-Mahdiyyah	360	15	0.99
64	1/4 <i>A'</i>	Al-Mahdiyyah	361	14.5	1.01
65	1/4 <i>A'</i>	Al-Mahdiyyah	363	16	1.00
66	1/4 <i>A'</i>	Al-Mahdiyyah	364	16	1.00
*67	1/4 <i>A'</i>	No Mint	No date	15.5	1.10

Reference	Description	Collection
BM IV, 39.		UM
BM IV, 39.	Different dies.	ANS
BM IV, 43.		UM
BM IV, 43.	Different dies.	ANS
Khedivial 957; Bardo, Suppl. 15 (cf. pp. 2-3).	Lane-Poole's readings are to be corrected in certain respects. The unusual legends are correctly given by Farrugia de Candia.	ANS
Cf. BM IV, 25.	There is no pellet in the center of obv. and rev.	UM
BM IV, 26.	Pellet on circle separating outer from middle margin of rev. indicates point at which legend of latter begins.	UM
Cf. Paris, 109.	Digit: احد .	UM
Paris, 109.		UM
Paris, 110	Pellet on circle separating inner from middle margin of obv. indicates point at which these two legends begin.	UM
Cf. Markov, p. 348, no. 10 (not described).	As no. 53, except date.	UM
BM IV, 32.		UM
BM IV, 32.	Same dies?	ANS
	Similar to nos. 55-56, but عدل in place of pellet in rev. center.	UM
Paris, 114.		UM
Paris, 115.		UM
Paris, 116.		UM
Paris, 116.	Same rev. dies.	ANS
Østrup, 1944.		UM
BM IV, 33.		UM
Palermo, p. 146, no. 18.	Digit: احد .	ANS
Khedivial, 984.		UM
Østrup, 1946.		ANS
	Obv.: Two undeciphered circular legends; pellet in center. Rev.: Outer marg.: دعا الامام معد لتوحيد الاله الصمد Inner marg.: المعز دين الله امير المؤمنين Pellet in center.	ANS

No.	Metal	Mint	Date	Di.	Weight
*68	AR	Filastīn	359	26	2.96
*69	AR	Miṣr	364	18	1.39
70	AR	Al-Manṣūriyah	356 ?	20	1.44
71	AR	Al-Manṣūriyah	359	20	1.40
*72	AR	Al-Manṣūriyah	361	19	1.41
73	AR	Al-Manṣūriyah	x	20	2.57
*74	AR	Al-Mahdiyyah	343	18	1.47
*75	AR	Al-Mahdiyyah	356	20	1.27
76	1/4 Aʿ	Imitation of coin of al-Muʿizz.			

ABŪ-MANṢŪR NIZĀR AL-ʿAZĪZ BIʿLLĀH

365-386 A.H. = 976-996 A.D.

*77	1/4 Aʿ	Ṣiqilliyah	366	16	1.00
*78	Aʿ	Filastīn	370	24	4.00
*79	Aʿ	Filastīn	370	24	3.88
*80	Aʿ	Filastīn	371	22	4.09
*81	Aʿ	Filastīn	371	22	4.11
*82	Aʿ	Filastīn	375	22	4.11
*83	Aʿ	Filastīn	375	22.5	4.05

Reference	Description	Collection
Cf. Nassar, p. 125, same date and mint, but not described.	Inscriptions, similar to no. 28 above (i.e., Paris, 98), except dirhem, and rev. middle margin reads: محمد خير المرسلين وعلى افضل الوصيين	ANS
Bardo, 44.	Similar to no. 44, but dirhem.	ANS
Østrup, 1948.		ANS
	Similar to no. 58, but dirhem.	ANS
	Similar to BM IV, 48, but date effaced.	ANS
	Similar to BM IV, 48, except mint and date.	ANS
	Similar to no. 74 except date.	ANS
		ANS
Differs from BM IV, 52.	Obv.: Inner marg.: لا اله الا الله محمد رسول الله على خير صفوة الله (sic) Outer marg.: Qur'ān IX, 33. In center, pellet within circle. Rev.: Inner marg.: عبد الله ووليه نزار الامام العزيز بالله امير (sic) Outer marg.: mint-date. Pellet as on obv.	ANS
Cf. BM IV, 54.		UM
Cf. BM IV, 54.	On both obv. and rev., within space between inner margin and circle enclosing pellet, at right: ظ (pointed). Pellet over م of مئة and over ه of ليظهره.	ANS
Cf. Nassar, p. 126, same date and mint, but not described.	Inscriptions similar to BM IV, 54, except date.	UM
As no. 80.	As above, different dies.	ANS
Cf. BM IV, 54.		UM
Cf. BM IV, 54.	Beneath ولو in obv. outer margin, two pellets.	ANS

No.	Metal	Mint	Date	Di.	Weight
84	<i>A'</i>	Filastīn	376	22.5	4.07
*85	<i>A'</i>	Filastīn	378	23	4.09
86	<i>A'</i>	Miṣr	365	24	4.13
87	<i>A'</i>	Miṣr	366	24	4.12
88	<i>A'</i>	Miṣr	366	23	4.11
89	<i>A'</i>	Miṣr	367	23	4.12
90	<i>A'</i>	Miṣr	368	23	4.14
91	<i>A'</i>	Miṣr	369	22	4.13
92	<i>A'</i>	Miṣr	369	22	4.08
93	<i>A'</i>	Miṣr	370	22	4.14
94	<i>A'</i>	Miṣr	371	22	4.11
95	<i>A'</i>	Miṣr	371	22	4.13
96	<i>A'</i>	Miṣr	372	22	4.15
97	<i>A'</i>	Miṣr	373	22	4.12
98	<i>A'</i>	Miṣr	374	22	4.13
99	<i>A'</i>	Miṣr	375	21	4.11
100	<i>A'</i>	Miṣr	376	23	4.13
101	<i>A'</i>	Miṣr	377	23	3.81
102	<i>A'</i>	Miṣr	378	23	4.13
103	<i>A'</i>	Miṣr	380	23	4.11
*104	<i>A'</i>	Miṣr	382	21	4.11
*105	<i>A'</i>	Miṣr	382	21	4.15
106	<i>A'</i>	Miṣr	384	21.5	4.15
107	<i>A'</i>	Miṣr	385	22.5	4.04
*108	<i>A'</i>	Al-Manṣūriyah	368	21	3.98 pierced
109	<i>A'</i>	Al-Manṣūriyah	375	21	4.07
110	<i>A'</i>	Al-Manṣūriyah	385	21	3.92
111	<i>A'</i>	Al-Mahdiyyah	370	20	4.11
112	<i>A'</i>	Al-Mahdiyyah	370	20	4.06
113	<i>A'</i>	Al-Mahdiyyah	371	21	4.13
114	<i>A'</i>	Al-Mahdiyyah	381	21	4.16
*115	<i>A'</i>	Al-Mahdiyyah	383	20.5	3.96
*116	<i>A'</i>	Miṣr	381	19	1.26
*117	<i>A'</i>	Al-Manṣūriyah	368	18	1.35
*118	<i>A'</i>	Al-Manṣūriyah	376	19	1.31
119	<i>A'</i>	Al-Manṣūriyah ?	[3]x7	19	1.35
120	<i>A'</i>	Al-Manṣūriyah	x	19	1.28
121	<i>A'</i> fraction	No Mint	Nodate	15	0.73

Reference	Description	Collection
BM IV, 60.		UM
Cf. BM IV, 54.		UM
Paris, 141.		UM
BM IV, 50.		UM
BM IV, 50.	Different dies.	ANS
BM IV, 53.		UM
BM IX, 53 ^d .		UM
Khedivial, 1006.		UM
Khedivial, 1006.	Different dies.	ANS
BM IX, 54 ^e .		UM
BM IV, 56.		UM
BM IV, 56.	Different dies.	ANS
BM IV, 58.		UM
BM IV, 59.		UM
Khedivial, 1016.		UM
Paris, 147.		UM
Khedivial, 1020.		UM
Khedivial, 1021.	Crudely engraved.	UM
Fraehn, Suppl. p. 81.	Very debased epigraphy. For example, the <i>م</i> of <i>مصر</i> is represented by a single line.	UM
Khedivial, 1025.	Debased epigraphy.	UM
Cf. BM IV, 50.		UM
Cf. BM IV, 50.	Different dies.	ANS
Khedivial, 1031.	Engraving is regular and well-executed, but the letters are sometimes compressed and abbreviated.	UM
Khedivial, 1032.	Debased epigraphy.	UM
Cf. BM IV, 63.		UM
Paris, 151.	Point on circle between obv. inner and outer margins over word 'Ali.	UM
BM IV, 68.		UM
BM IV, 55.		UM
BM IV, 55.	Different dies.	ANS
BM IV, 57.		UM
RN 1935, p. 40, no. 8.		UM
Cf. BM IV, 55.		UM
Cf. BM IV, 72.		ANS
Cf. BM IV, 72.		ANS
Cf. BM IV, 72.		ANS
Cf. BM IV, 72.		ANS
Cf. BM IV, 72.		ANS
RN 1935, p. 41, no. 9.		ANS

No.	Metal	Mint	Date	Di.	Weight
122	AR fraction	No mint	No date	14	0.67
123	AR fraction	No Mint	No date	13	0.61
124	AR	Mint effaced	x	18	1.37

ABŪ-ʿALĪ AL-MANŞŪR AL-ḤĀKIM BĪ-AMRĪʿLLĀH

386-411 A.H. = 996-1021 A.D.

*125	1/4 A	[Şiqilliyah]	401	12	0.96
*126	1/4 A	Şiqilliyah	407/9	13	0.96
127- 131	1/4 A	[Şiqilliyah]	x	13-13.5	Avg. 0.99
132- 133	1/4 A	[Şiqilliyah ?]	x	12	Avg. 0.89
*134	A	Filastīn	389	23	3.92
135	A	Miṣr	386	22	4.12
136	A	Miṣr	387	24	4.15
137	A	Miṣr	387	23	4.11

Reference	Description	Collection
RN 1935, p. 41, no. 9.		ANS
RN 1935, p. 41, no. 9.		ANS
Cf. BM IV, 72.		ANS
Differs from BM IV, 83.	Obv.: لا اله الا الله محمد رسول الله على ولي الله Marg.: Qur'an, IX, 33. Rev.: الامام المنصور الحاكم بامر الله امير المؤمنين Marg.: mint-date. Obv. as no. 125. Rev.: المنصور ابو على الامام امير المؤمنين Marg.: mint-date.	ANS(H)
Cf. Palermo, p. 154, no. 45 (unattributed).	Obv.: محمد رسول الله على ولي الله Marg.: part of Qur'an IX, 33. Rev.: الحاكم بامر الله امير المؤمنين Marg.: mint-date (frag.) Similar to no. 126.	ANS(H)
Cf. Khedivial, 1045. Østrup, 1954. BM IX, 72 ^t . Cf. BM IX, 72 ^t .	Pellet in center of obv. and rev. On coins of this type the pellet is usually not described by the editors. In some cases the pellet is not free-standing,	ANS(H) UM UM UM ANS

2 Fāṭimid

No.	Metal	Mint	Date	Di.	Weight
138	A'	Miṣr	388	24	4.19
139	A'	Miṣr	389	24	4.14 pierced
140	A'	Miṣr	390	23	4.16
141	A'	Miṣr	392	23	4.13
142	A'	Miṣr	392	22	4.17
143	A'	Miṣr	392 ?	23.5	[4.46]
144	A'	Miṣr	393	22	4.13
145	A'	Miṣr	394	22	4.18
*146	A'	Miṣr	397	23	4.11
147	A'	Miṣr	398	23	4.16
148	A'	Miṣr	399	22.5	4.09
149	A'	Miṣr	400	23	4.20
150	A'	Miṣr	403	23	4.20
151	A'	Miṣr	403	22	3.70
*152	A'	Miṣr	404	20	4.09 pierced
153	A'	Miṣr	405	22.5	4.13
154	A'	Miṣr	406	22	4.19
155	A'	Miṣr	407	23	[4.57]
156	A'	Miṣr	407	23	4.21
157	A'	Miṣr	408	22	4.20
158	A'	Miṣr	409	22	4.12

Reference	Description	Collection
	and is rather the termination of one of the letters in the center of the area inscription.	
Paris, 175.		UM
Paris, 176.		UM
Paris, 177.		UM
Khedivial, 1041.		UM
Khedivial, 1041.	Different dies.	ANS
Khedivial, 1041.	Framed and fitted with two rings.	UM
BM IV, 75.		UM
Paris, 180.		UM
Cf. BM IV, 73.		UM
Dorn I, p. 62, no. 4.		UM
RN 1935, p. 42, no. 10.		UM
BM IV, 82.		UM
BM IV, 85.		UM
BM IV, 85.	Different dies.	ANS
Cf. BM IV, 85.	Other specimens of this mint and date which have been published are of the type with the name of the heir apparent. Three points over ش of سنة; point over ن of لا شريك.	UM
BM IV, 88.	Points as follows: three over ش of ض, المسلمين ن of لا شريك; one each over ن of سنة, خمس of خ.	UM
BM IV, 90.	Points as on BM specimen.	UM
BM IV, 91.	Points as on BM specimen. Framed and fitted with ring.	UM
BM IV, 91.	Points as on BM specimen. Same dies as no. 155.	ANS
Khedivial, 1049.	Points as follows: one each over ن of ذ, ضرب of ض, المسلمين ن, المشركون of سنة. The description of the Khedivial specimen is probably faulty in that it gives the 2nd line of the rev. ending with امير; it probably has the improved reverse, as here, with امير on the 3rd line.	UM
BM IV, 93.	Points as on BM specimen, plus ذ of هذا.	UM

2*

No.	Metal	Mint	Date	Di.	Weight
*159	<i>A'</i>	Miṣr	410	22	4.20
160	<i>A'</i>	Miṣr	410	22	4.18
161	<i>A'</i>	Miṣr	411	22	4.22
162– 164	1/4 <i>A'</i>	[Al-Manṣūriyah]	x	13	1.00
*165	1/4 <i>A'</i>	Al-Mahdiyyah	392	13	1.00
*166	<i>A'</i>	Al-Mahdiyyah	404	24	4.13 pierced
167	1/4 <i>A'</i>	Al-Mahdiyyah	412 sic	12.5	0.90 pierced
168	1/4 <i>A'</i>	Al-Mahdiyyah	x	12	0.63
169– 170	1/4 <i>A'</i>	Mint effaced	x	10.5	Avg. 0.84
171	1/4 <i>A'</i>	Mint effaced	x	14	1.01
172	1/4 <i>A'</i>	Mint effaced	x	12.5	0.98
173	1/4 <i>A'</i>	Mint effaced	x	12.5	1.00
174	1/4 <i>A'</i>	Mint effaced	x	13.5	0.90

Reference	Description	Collection
Cf. BM IV, 94.	No error in obv. margin. Points as follows: one each over ن of سنة, ن of هذا, ذ of ضرب, ض of المسلمين.	UM
BM IV, 95.	Points as above, plus ظ of ليظهره.	ANS
BM IV, 96.	Points as on BM specimen.	UM
Cf. BM IX, 81 ^d .	Composite rev. margin: ... ضرب هذا الدينار بالك ...	ANS(H?)
Cf. BM IX, 81 ^d .	Cf. Tiesenhausen, <i>Mélanges</i> II, 154, described as a dinar, but probably a quarter similar to this.	ANS
Cf. BM IV, 74 Khedivial, 1057.	Similar to no. 126 above, except mint (and date). Obv.: محمد رسول الله على ولي الله Marg.: Qur'ān, IX, 33 (frag.) Rev.: الحاكم بامر الله امير المؤمنين س Marg.: off flan.	UM UM ANS ANS (H)
Cf. BM IV, 83.	Pellets above and beneath obv. as well as beneath rev. Obv. similar to no. 125 above. Rev.: الامام المنصور الحاكم بامر الله امير المؤمنين Marg.: effaced. Obv.: لا اله الا الله محمد رسول الله Marg.: Qur'ān, IX, 33 (frag.) Rev.: الحاكم بامر الله امير المؤمنين Marg.: mint-date (frag.) Similar to no. 173, but pellet above	ANS ANS(H) ANS(H)

No.	Metal	Mint	Date	Di.	Weight
175	1/4 <i>A'</i>	Mint effaced	x	13	1.02
*176	<i>A'</i>	Miṣr	406	19	1.30
177	<i>A'</i>	Al-Manṣūriyah	x	22.5	4.77
178	<i>A'</i>	[Al-Manṣūriyah ?]	x	23.5	4.40
*179	<i>A'</i>	Al-Mahdiyyah	401	22	2.36
*180	<i>A'</i>	Al-Mahdiyyah	401	20	1.79
181- 182	<i>A'</i>	No Mint	No date	15-17	0.66-1.12
183	<i>A'</i>	No Mint	No date	17	1.05
184	<i>A'</i>	No Mint	No date	13	0.80
185	<i>A'</i>	Mint effaced	3xx	17	1.41
186- 191	<i>A'</i>	Mint effaced	x	17-21	1.10-3.15

ABŪ'L-ḤASAN 'ALĪ AL-ZĀHIR LĪ-Ā'ZĀZ DĪN-ALLĀH

411-427 A.H. = 1021-1036 A.D.

*192	1/4 <i>A'</i>	Ṣiqilliyah	414 ?	15	0.96
*193	1/4 <i>A'</i>	Ṣiqilliyah	417 ?	14	1.00
194	1/4 <i>A'</i>	Ṣiqilliyah	419	14.5	0.97
195	1/4 <i>A'</i>	Ṣiqilliyah	419	14	0.97
196	1/4 <i>A'</i>	Ṣiqilliyah	419	14	0.99
197	1/4 <i>A'</i>	Ṣiqilliyah	420 Rabī'	15	0.97

Reference	Description	Collection
Cf. BM, IV, 90.	and beneath obv. area, س (?) beneath rev. area. Barbarous margins. Barbarous. Probably al-Ḥākim. Differs from Khedivial, 1071. Point over ن of المسلمين.	ANS UM
Cf. BM IV, 106.		ANS
Cf. BM IV, 106.	Fabric and style similar to no. 177.	ANS
Cf. Schulman, March 1914, p. 32, no. 460.	Legends similar to BM IV, 85, expect dirhem, mint and date.	ANS
As no. 179.	Similar, legends poorly preserved.	ANS
BM IV, 104.	Floral epigraphy.	ANS
Paris, 211.	Pellet above obv. and rev.	ANS
Paris, 212.		ANS
	Obv.: لا اله الا الله وحده لا شريك له محمد رسول الله علي ولي الله	ANS
	Marg.: mint-date. Rev.:	
	النصور ابو علي الامام الحاكم بامر الله امير المؤمنين	
BM IV, 105.	Marg.: Qur'an IX, 33 (frag.)	ANS
Cf. Paris, 217.		ANS(H)
Cf. Paris, 217.	Rev. area lacks pellets.	ANS(H)
Palermo, p. 156, no. 53.		UM
Palermo, p. 156, no. 53.		ANS
Palermo, p. 156, no. 53.		ANS(H)
Palermo, p. 158, no. 57.	Not specified whether Rabi' I or II.	ANS(H)

No.	Metal	Mint	Date	Di.	Weight
198	1/4 <i>N</i>	Şiqilliyah	420	13	0.96
199	1/4 <i>N</i>	[Şiqilliyah]	[412-420]	14	0.98
200	1/4 <i>N</i>	Şiqilliyah	421	14	1.00
201	1/4 <i>N</i>	Şiqilliyah	422	13.5	0.96
202	1/4 <i>N</i>	Şiqilliyah	422	14	0.96
203	1/4 <i>N</i>	Şiqilliyah	423	14	0.97
204	1/4 <i>N</i>	Şiqilliyah	423	14.5	0.98
205	1/4 <i>N</i>	Şiqilliyah	423 ?	12.5	0.90
206	1/4 <i>N</i>	Şiqilliyah	426	13	0.98
207	1/4 <i>N</i>	Şiqilliyah	427	12	0.88
*208	1/4 <i>N</i>	Şiqilliyah	428 <i>sic</i>	14.5	0.97
209	1/4 <i>N</i>	[Şiqilliyah]	429 <i>sic</i>	12	1.00
210- 211	1/4 <i>N</i>	Şiqilliyah	4xx	14-15	0.86-1.02
212	<i>N</i>	Şūr	424	21.5	4.17
213	<i>N</i>	Miṣr	413	22.5	4.05
214	<i>N</i>	Miṣr	414	22.5	4.06
*215	1/4 <i>N</i>	Miṣr	414	18	1.07

Reference	Description	Collection
BM IV, 115. Cf. Paris, 217. Palermo, p. 161, no. 68. BM IV, 118.	Date written: اثنتين وعشرين وار	UM ANS(H) UM UM
BM IV, 118.	Date written: اثنين وعشرين وار	UM
BM IV, 120.		UM
BM IV, 120.	Date ends: واربعما	ANS
BM IV, 120.		ANS
BM IV, 122.	Digit: ستة	UM
Palermo, p. 165, no. 122.	Obv.: الا الله محمد رسول الله علي ولي الله لا اله Marg.: Qur'ān IX, 33. Rev.: عبد الله الامام الظاهر امير المؤمنين وولي Marg.: mint-date.	ANS(H) ANS(H)
Paris, 238. <i>sic</i>	Obv.: similar to no. 208. Rev.: عبد الله ابو الحسن علي امير المؤمنين وولي Marg.: mint-date.	ANS(H) ANS(H)
Østrup, 1962.	Point over first ن of المؤمنين.	ANS
BM IV, 108.	Digit: ثمانية. Points as follows: one each over ط of الظاهر ن, of دين, 2nd ضرب of ض, المؤمنين ن	UM
Khedivial, 1074.	Point over 1st ن of المؤمنين.	UM
Cf. Khedivial, 1074.	Note the unusual size, much larger than the regular quarter-dinar, and the heavy weight. Also, a quarter-dinar of Miṣr is a novelty. Cf. nos. 221, 226 and 343 below.	UM

No.	Metal	Mint	Date	Di.	Weight
216	<i>A'</i>	Miṣr	415	23	4.09
217	<i>A'</i>	Miṣr	416	22	[4.40] ringed
218	<i>A'</i>	Miṣr	417	22	[4.41] ringed
219	<i>A'</i>	Miṣr	418	22	4.25
220	<i>A'</i>	Miṣr	419	23	4.20
*221	1/4 <i>A'</i>	Miṣr	421	17.5	1.11
222	<i>A'</i>	Miṣr	422	22	4.18
223	<i>A'</i>	Miṣr	422	21.5	4.14
224	<i>A'</i>	Miṣr	423	22	4.23
225	<i>A'</i>	Miṣr	425	23.5	4.08
*226	1/4 <i>A'</i>	Miṣr	426	17.5	1.06
227	<i>A'</i>	Miṣr	427	24	4.17
*228	<i>A'</i>	Al-Manṣūriyah	416	22	4.05 pierced
229	<i>A'</i>	Al-Manṣūriyah	419	24	4.20 pierced
230	<i>A'</i>	Al-Manṣūriyah	420	24	4.22
*231- 234	1/4 <i>A'</i>	Al-Manṣūriyah	429 <i>sic</i>	12-13	Avg. 0.90
235- 237	1/4 <i>A'</i>	Al-Manṣūriyah	No date	11.5-12	Avg. 0.93
238	1/4 <i>A'</i>	Al-Manṣūriyah	No date	12.5	0.92
239	<i>A'</i>	Al-Manṣūriyah	x	23	4.08
240- 244	1/4 <i>A'</i>	Al-Manṣūriyah	x	12-13	Avg. 0.86
*245	<i>A'</i>	Al-Mahdiyyah	419	23	3.92

Reference	Description	Collection
Paris, 242.	Points as follows: one each over ط of ضرب, 2nd ن of المؤمنين, الظاهر, سنة ن.	UM
Paris, 243.	Point over 1st ن of المؤمنين.	UM
BM IV, 112.	Point over ض of ضرب.	UM
BM IV, 113.	Points as on BM specimen.	UM
BM IV, 114.	Point as on BM specimen.	UM
Cf. BM IV, 117.	Cf. nos. 215 above, and nos. 226 and 343 below.	UM
Cf. Markov, p. 351, no.66 (not described).	Cf. BM IV, 117.	UM
As no. 222.	Point over 2nd ن of المؤمنين.	ANS
Khedivial, 1086.	Point as above.	UM
BM IV, 121.		UM
Cf. BM IX, 121 ^d .	Cf. nos. 215 and 221 above, and no. 343 below.	UM
Khedivial, 1093.		UM
Cf. BM IV, 109.		UM
BM IX, 114 ^c .	ر above rev. area.	UM
Bardo, Suppl. 38.	As no. 229.	UM
Cf. Bardo, 89-91, dated xx9.	In view of the obv. and rev. area legends of the type introduced in 421, there can be little doubt that the Bardo specimens are 429 and not 419.	ANS(H)
Cf. Paris, 246.	Rev. margin ends سنة.	ANS(H)
Cf. Paris, 246.	Rev. margin ends بالنصورية ار.	ANS
Cf. BM IV, 109.	Obscure letter د (?) beneath obv. area. *above and ن beneath rev. area.	ANS
Palermo, p. 171, no. 161.		ANS(H _s)
Cf. Khedivial, 1080.	دين omitted from 1st line of rev. area, and الله in 2nd line is contracted to اله. Beneath rev. area at right حر. In rev. inner margin between الله and ووليه, two Naskhi letters رب?	ANS

No.	Metal	Mint	Date	Di.	Weight
246	<i>A'</i>	Al-Mahdiyyah	420	24	4.11
247	<i>A'</i>	Al-Mahdiyyah	422	24	3.99 pierced
*248	<i>A'</i>	Al-Mahdiyyah	426	24	4.11
*249- 253	1/4 <i>A'</i>	No Mint	No date	13-14	Avg. 0.82
*254	1/4 <i>A'</i>	No Mint	No date	11	0.90
255	1/4 <i>A'</i>	Mint effaced	417?	13	0.94
256	1/4 <i>A'</i>	Mint effaced	x	13	0.86
257	<i>R</i>	Mint effaced	42x	20	2.74
258	<i>R</i>	Mint effaced	x	18	2.05

ABŪ-TAMĪM MA'ADD AL-MUSTANŞIR BI'LLĀH

427-487 A.H. = 1036-1094 A.D

*259	<i>A'</i>	Al-Iskandariyah	435	24	3.82
260	<i>A'</i>	Al-Iskandariyah	465	21.5	2.87
261	<i>A'</i>	Al-Iskandariyah	471	22	4.05
262	<i>A'</i>	Al-Iskandariyah	472	22	4.24
263	<i>A'</i>	Al-Iskandariyah	473	22	4.23

Reference	Description	Collection
Khedivial, 1080.	دين in 1st line of rev. area omitted or contract ed to one letter. Same symbol beneath rev. ar- ae as on no. 245.	ANS
Khedivial, 1085.	Same symbol as on no. 245 beneath obv. and rev. areas.	UM
Cf. Khedivial, 1085. pierced	دين contracted as above. Same sym- bol as on no. 245 beneath rev. area.	UM
	Obv. لا اله الا الله محمد رسول الله علي ولي الله	ANS(H)
	Marg.: Qur'ān IX, 33. Rev.: الظاهر لاعزاز دين الله امير المؤمنين	
	Marg.: عبد الله ووليه علي ابو الحسن الامام	
	Obv.: محمد رسول الله علي ولي الله	ANS(H)
	Marg.: obscure, but apparently not mint-date formula. Rev. as no. 249.	
	Obv. as no. 254, margin illegible.	ANS(H)
	Rev.: الامام الظاهر امير المؤمنين	
	Marg.: mint-date.	
Cf. BM IV, 118.		ANS(H)
Cf. BM IV, 107.		ANS
Cf. BM IV, 107.	Point over ط of الظاهر .	ANS
Cf. BM IV, 178.		UM
BM IV, 174.		UM
Østrup, 1975.		UM
Khedivial, 1174.		UM
BM IX, 177P.		UM

No.	Metal	Mint	Date	Di.	Weight
264	<i>A'</i>	Al-Iskandariyah	474	23	4.00
265	<i>A'</i>	Al-Iskandariyah	474	23	4.22
266	<i>A'</i>	Al-Iskandariyah	475	23	4.20
*267	<i>A'</i>	Al-Iskandariyah	477?	24	4.27
268	<i>A'</i>	Al-Iskandariyah	478	23	4.20
269	<i>A'</i>	Al-Iskandariyah	479	23	4.14
270	<i>A'</i>	Al-Iskandariyah	482	20.5	3.96 pierced
271	<i>A'</i>	Al-Iskandariyah	483	22	3.99
272	<i>A'</i>	Al-Iskandariyah	483	23	4.27
273	<i>A'</i>	Al-Iskandariyah	484	23	4.06
274	<i>A'</i>	Al-Iskandariyah	485	23	3.96
275	<i>A'</i>	Al-Iskandariyah	486	23	4.28
*276	<i>A'</i>	Al-Iskandariyah	487	22	4.31
277	<i>A'</i>	Ḥalab	446	22	4.08
278	<i>A'</i>	Dimishq	437	23	3.94
279	<i>A'</i>	Dimishq	441	21	3.79 pierced
280	<i>A'</i>	Zabīd	447	22	4.02
281	1/4 <i>A'</i>	Şiqilliyah	429	12.5	0.96 pierced
282	1/4 <i>A'</i>	Şiqilliyah	431	14	1.00
283	1/4 <i>A'</i>	Şiqilliyah	[431]	13	0.98
*284	1/4 <i>A'</i>	Şiqilliyah	43x	13	0.97
*285	1/4 <i>A'</i>	Şiqilliyah	444	14	1.01
*286–287	1/4 <i>A'</i>	Şiqilliyah	No date	12, 14.5	0.90–0.99

Reference	Description	Collection
Milan, CCXXV.		UM
BM IV, 178.		UM
BM IV, 179.		UM
Cf. BM IV, 178.		UM
Paris, 262.		UM
Khedivial, 1184.		UM
Paris, 263.		UM
Khedivial, 1187.		UM
Khedivial, 1187.	Same dies.	ANS
BM IV, 184.		UM
BM IX, 184 ^d .		UM
Khedivial, 1192.		UM
Cf. Schulman, Nov. 1907, p. 54, no. 898 (date doubtful).		UM
Khedivial, 1146.	Points: one each over ض of ضرب, واربعين of ع.	UM
Paris, 270.		UM
RN 1935, p. 198, no. 15.		UM
Casanova, RN 1894, p. 205.	For the historical implications see Casanova, <i>loc. cit.</i> , pp. 201–212, and the article <i>Ṣulāḥids</i> in <i>Encyclopaedia of Islām</i> . For the mint cf. <i>Num- ismatic Chronicle</i> , 1939, pp. 85–6.	ANS
Paris, 273.		UM
Palermo, p. 173, no. 166; cf. Paris, 322.		ANS(H)
As no. 282.		ANS(H)
	Obv. similar to BM IV, 129. Rev.:	ANS(H)
	<p> الامام معد ابو تميم المستنصر بالله امير المؤمنين </p>	
	Marg.- mint-date.	
Cf. Paris, 278.		ANS(H)
	Obv.: لا اله الا الله محمد رسول الله ضرب بصقلية	ANS(H)

No.	Metal	Mint	Date	Di.	Weight
*288	A'	Şūr	434	23	3.97
*289	A'	Şūr	435	23	4.10
*290	A'	Şūr	437	22.5	3.49
291	A'	Şūr	439	22.5	4.12
292	A'	Şūr	441	21	4.29
293	A'	Şūr	442	22.5	4.06
294	A'	Şūr	443	21	4.01
295	A'	Şūr	444	21.5	3.74
296	A'	Şūr	446	22	4.39
297	A'	Şūr	447	22	3.73
*298	A'	Şūr	450	21.5	4.20
299	A'	Şūr	468	24.5	3.93 pierced
*300	A'	Ṭabariyah	439	22.5	4.21
*301	A'	Ṭabariyah	447	22	4.23
*302	A'	Ṭarābulus	431	22	4.12
303	A'	Ṭarābulus	436	23	3.86
304	A'	Ṭarābulus	439	23	4.11
305	A'	Ṭarābulus	440	23.5	4.17
306	A'	Ṭarābulus	444	21	4.13
307	A'	Ṭarābulus	446	21.5	3.67
308	A'	Ṭarābulus	449	21.5	3.87
309	A'	Ṭarābulus	464	22	4.15 pierced
310	A'	Ṭarābulus	471	23	3.15
*311	A'	'Akkā	472	22	3.31
312	A'	Filastīn	438	22.5	4.00
*313	A'	Filastīn	440	22	3.64
*314	A'	Filastīn	443	21	4.82
315	A'	Filastīn	444	21.5	3.76
316	A'	Miṣr	427	23.5	4.12

Reference	Description	Collection
	Rev.: الامام ابو تميم معد المستنصر بالله امير المؤمنين No marginal legends.	
Cf. BM IV, 127.		UM
Cf. BM IV, 127.		UM
Cf. Paris, 270.		UM
Khedivial, 1125.		UM
Lane-Poole, Calvert, no. 37.		UM
BM IV, 145.	Points as on BM specimen.	UM
Paris, 331.	Point over ضرب of ض.	ANS
Cf. Markov, p. 352, no. 90 (not described).	As above, including point.	UM
Khedivial, 1147.	Point as above.	UM
Cf. Markov, p. 352, no. 94 (not described).	Point as above.	UM
Cf. BM IV, 145.	Point as above.	UM
Paris, 335.		UM
	Similar to BM IV, 140, except mint and date.	UM
Cf. BM IV, 143.	Point over ضرب of ض	UM
Cf. BM IV, 127.		UM
Khedivial, 1112.		UM
BM IX, 140 ^c .		UM
BM IX, 140 ^p .		ANS
BM IX, 149 ^d .	Point over ضرب of ض	ANS
BM IV, 152.	Point as on BM specimen.	UM
BM IV, 159.	Point as on BM specimen.	UM
RN 1935, p. 200, no. 20.	Rev. margin normal.	UM
BM IX, 177 ^k .		UM
Cf. BM IV, 132.	Numerous minor errors in the in- scriptions.	UM
Khedivial, 1122.		UM
Cf. BM IV, 140.		UM
Cf. BM IV, 143.	Point over ضرب of ض. Note ex- ceptional weight.	ANS
Khedivial, 1141.	Point as on Khedivial specimen.	UM
BM IV, 124.		UM

3 Fāṭimid

No.	Metal	Mint	Date	Di.	Weight
317	<i>A'</i>	Miṣr	428	23	4.21
318	<i>A'</i>	Miṣr	428	23	4.26
319	<i>A'</i>	Miṣr	429	23	4.26
320	<i>A'</i>	Miṣr	430	24	[4.84]
321	<i>A'</i>	Miṣr	431	23	3.94
322	<i>A'</i>	Miṣr	431	24	4.20
323	<i>A'</i>	Miṣr	432	23	3.87
324	<i>A'</i>	Miṣr	433	24	4.08
325	<i>A'</i>	Miṣr	434	22	3.89
326	<i>A'</i>	Miṣr	434	23	4.09
327	<i>A'</i>	Miṣr	435	23.5	4.14
328	<i>A'</i>	Miṣr	435	23.5	4.18
329	<i>A'</i>	Miṣr	436	22.5	4.22
330	<i>A'</i>	Miṣr	437	22	3.61
331	<i>A'</i>	Miṣr	438	23	4.26
332	<i>A'</i>	Miṣr	439	22	4.22
333	<i>A'</i>	Miṣr	440	21	3.76 pierced
334	<i>A'</i>	Miṣr	440	22	[4.49]
335	<i>A'</i>	Miṣr	440	22	4.20
336	<i>A'</i>	Miṣr	441	22	4.15
337	<i>A'</i>	Miṣr	441	22	4.22
338	<i>A'</i>	Miṣr	442	21.5	4.13
339	<i>A'</i>	Miṣr	442	22	4.20
340	<i>A'</i>	Miṣr	443	22	4.23
341	<i>A'</i>	Miṣr	433	21.5	4.20
342	<i>A'</i>	Miṣr	444	21	3.74
*343	1/4 <i>A'</i>	Miṣr	444	17	1.05
344	<i>A'</i>	Miṣr	445	22	4.14
345	<i>A'</i>	Miṣr	446	21.5	4.26
346	<i>A'</i>	Miṣr	446	22	4.21 pierced
347	<i>A'</i>	Miṣr	447	20	3.77 pierced
348	<i>A'</i>	Miṣr	447	21.5	4.03
349	<i>A'</i>	Miṣr	448	22	4.25
*350	<i>A'</i>	Miṣr	449	21.5	3.96 pierced
351	<i>A'</i>	Miṣr	450	22	4.17

Reference	Description	Collection
BM IV, 125.		UM
BM IV, 125.	Different dies.	ANS
Khedivial, 1102.	ن above rev. area.	UM
BM IV, 127.	Framed and fitted with ring.	UM
BM IV, 128.		UM
BM IV, 128.	Same dies.	ANS
Paris, 352.	Points as follows: two over ت of تميم, one over ن of المستنصر, one under ب of بالله in rev. area.	UM
Khedivial, 1106.	Points as above, plus one each over 2nd ن of المؤمنين, ض of ضرب, ن of سنة, ن of الدينار.	UM
BM IV, 131.	Points as on BM specimen.	UM
BM IV, 131.	Points as on BM specimen.	ANS
BM IV, 132.		UM
BM IV, 132.	Same dies.	UM
BM IV, 134.		UM
BM IV, 135b.		UM
BM IV, 137.		UM
BM IV, 140.		UM
BM IV, 141.		UM
BM IV, 141.	Different dies. Framed and fitted with ring.	UM
BM IV, 141.	Different dies.	ANS
BM IV, 144.		UM
BM IV, 144.	Same dies.	ANS
Paris, 362.		UM
Paris, 362.	Different dies.	ANS
BM IV, 147.		UM
BM IV, 147.	Same dies.	ANS
BM IV, 148.		ANS
Cf. BM IV, 148.	Cf. nos. 215, 221 and 226 above.	UM
BM IV, 150.		UM
BM IV, 151.		UM
BM IV, 151.	Different dies.	ANS
BM IV, 154.		UM
BM IV, 154.	Different dies.	ANS
Paris, 368.		UM
Cf. BM IV, 143.		UM
Khedivial, 1156.		UM

4 Fāṭimid

No.	Metal	Mint	Date	Di.	Weight
352	<i>N</i>	Miṣr	450	22	4.07
353	<i>N</i>	Miṣr	451	21	[4.29] ringed
354	<i>N</i>	Miṣr	451	21	4.16
355	<i>N</i>	Miṣr	452	22	4.17
356	<i>N</i>	Miṣr	453	22	4.25
357	<i>N</i>	Miṣr	454	22	4.17
358	<i>N</i>	Miṣr	454	22	4.21
359	<i>N</i>	Miṣr	455	22	4.20
360	<i>N</i>	Miṣr	456	21.5	3.89
361	<i>N</i>	Miṣr	457	22	4.06
362	<i>N</i>	Miṣr	458	21	4.26
363	<i>N</i>	Miṣr	460	22	4.21 pierced
364	<i>N</i>	Miṣr	461	21	4.26 pierced
*365	<i>N</i>	Miṣr	464	22	4.27
*366	<i>N</i>	Miṣr	466	22	4.18
*367	<i>N</i>	Miṣr	469	21	4.21
368	<i>N</i>	Miṣr	470	21.5	4.09
*369	<i>N</i>	Miṣr	472	23	4.15
370	<i>N</i>	Miṣr	473	23	4.16
371	<i>N</i>	Miṣr	474	23	4.26
*372	<i>N</i>	Miṣr	478	24	4.20
373	<i>N</i>	Miṣr	479	22.5	4.09
374	<i>N</i>	Miṣr	479	24	[4.81]
*375	<i>N</i>	Miṣr	480	23	4.10 pierced
376	<i>N</i>	Miṣr	481	22	4.08
*377	<i>N</i>	Miṣr	482	22	3.88
*378	<i>N</i>	Miṣr	483	22.5	4.18
379	<i>N</i>	Miṣr	485	23	4.29
380	<i>N</i>	Miṣr	486	22	4.06
381	<i>N</i>	Al-Manṣūriyah	431	25	4.16
382	<i>N</i>	Al-Manṣūriyah	432	25	4.13 pierced

Reference	Description	Collection
Khedivial, 1156.	Different dies.	ANS
Paris, 369.		UM
Paris, 369.	Different dies.	ANS
Paris, 370.		UM
BM IV, 162.	Point over 2nd ث of ث only.	UM
BM IX, 164 ^t .		UM
BM IX, 164 ^t .	Different dies.	UM
BM IV, 165.		UM
Paris, 373.		UM
Khedivial, 1165.		UM
BM IV, 168.		UM
BM IV, 169.		UM
Paris, 374.		UM
[Glendenning, 5/12/48 (not described)]; cf. BM IV, 143.		UM
Cf. BM IV, 143.		UM
Cf. BM IV, 143.		UM
BM IX, 177 ^f .		UM
Cf. BM IV, 143.		UM
Khedivial, 1177.		UM
BM IX, 178 ^d .		UM
Cf. BM IV, 180.		UM
BM IV, 180.		UM
BM IV, 180.	Different dies. Framed and fitted with ring.	UM
Cf. BM IV, 180.		UM
BM IV, 182.		UM
Cf. BM IV, 180.		UM
Cf. Paris, 379.	Similar to the Paris specimen except that مال is present beneath rev. Pos- sibly Lavoix's description is not ac- curate.	UM
Khedivial, 1190.		UM
BM IV, 185.		UM
Bardo, 101.		UM
Bardo, 104.		UM

4*

No.	Metal	Mint	Date	Di.	Weight
*383	<i>A'</i>	Al-Mahdiyyah	455	22	4.10
384	<i>A'</i>	Mint effaced	x	11 frg.	—
385	1/4 <i>A'</i>	Mint effaced	x	13	0.88
*386	Billon	Şan'a'	463	17.5	1.94
*387	<i>AR</i>	Al-Mu'izzīyah	470	20	1.46
*388	Billon	Mint effaced	x	17	1.58
*389	<i>AR</i>	Mint effaced	x	12	0.77
*390	Billon	Mint effaced	x	13.5	1.30
391- 392	Billon	Mint effaced	x	—	—

Reference	Description	Collection
Differs from BM IV, 166. Cf. BM IV, 143. Cf. BM IV, 140. Cf. Paris, 324.	Obv.: الله لا اله الا Marg.: ... هم بصنعا سنة ثلث (sic) وستين واربعه Rev.: بالله المستصر (sic) Marg.: ... بسم الله الرحمن الرحيم Unique occurrence of Ṣan'ā' as a Fātimid mint. For the historical implications cf. Casanova, RN 1894, pp. 201-212, and the articles Ṣan'ā' and Sulaiḥids in <i>Encyclopaedia of Islām</i> .	ANS ANS ANS ANS
Cf. BM IV, 193. Cf. BM IV, 140.	Obv.: محمد رسول الله على ولي الله Marg.: effaced. Rev.: المستصر بالله امير المؤمنين Marg.: ... معد ... Obv.: Traces of 2-line area and single marginal legends. Rev.: الامام معد Marg.: بالله امير المؤمنين Unidentifiable except as coins of al-Mustanṣir.	ANS ANS ANS ANS
		ANS
		ANS

No.	Metal	Mint	Date	Di.	Weight
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ABŪ'L-QĀSIM AḤMAD AL-MUṢṬA'LI BI'LLĀH

487-495 A.H. = 1094-1101 A.D.

393	A'	Al-Iskandariyah	488	24	3.99
394	A'	Al-Iskandariyah	490	21	4.09
*395	A'	Al-Iskandariyah	493	23	3.91
*396	A'	Al-Iskandariyah	494	21	3.99
397	A'	Şūr	493	22.5	3.91
*398	1/4 A'	'Akkā	488	19	1.10
*399	1/4 A'	'Akkā	493	15	0.78
400	A'	Miṣr	491	22	4.13
401	A'	Miṣr	492	23	4.29
402	A'	Miṣr	493	22	4.21

ABŪ-'ALĪ AL-MANṢŪR AL-ĀMIR BI-AḤKĀM ALLĀH

495-524 A.H. = 1101-1130 A.D.

*403	A'	Al-Iskandariyah	495	22	4.02
404	A'	Al-Iskandariyah	497	23	4.70
*405	A'	Al-Iskandariyah	498	22.5	4.18
*406	A'	Al-Iskandariyah	499	22	4.17
*407	A'	Al-Iskandariyah	501	22	4.30
408	A'	Al-Iskandariyah	502	24	4.40
409	A'	Al-Iskandariyah	503	22	3.97
410	A'	Al-Iskandariyah	504	23	4.91
411	A'	Al-Iskandariyah	505	22	4.29
412	A'	Al-Iskandariyah	506	22.5	3.84
413	A'	Al-Iskandariyah	506	22.5	4.37
414	A'	Al-Iskandariyah	507	22.5	4.07
*415	A'	Al-Iskandariyah	508	22.5	4.29 pierced
416	A'	Al-Iskandariyah	509	21	3.95
417	A'	Al-Iskandariyah	510	21	4.14
418	A'	Al-Iskandariyah	510	21	3.84
419	A'	Al-Iskandariyah	510	22	4.18
420	A'	Al-Iskandariyah	511	20.5	3.99 ringed
421	A'	Al-Iskandariyah	512	21	4.45
422	A'	Al-Iskandariyah	514	21.5	4.39
423	A'	Al-Iskandariyah	515	21	4.11
424	A'	Al-Iskandariyah	519	21	4.09
425	A'	Al-Iskandariyah	520	21	4.00
426	A'	Al-Iskandariyah	522	20	4.36
*427	A'	Al-Iskandariyah	523	21	4.44

Cf. BM IV, 197.	UM
BM IV, 199.	UM
Cf. BM IV, 197.	UM
Cf. BM IV, 197.	UM
Cf. BM IV, 197.	UM
Soret à Fraehn, 126.	UM
BM IV, 202.	UM
Paris, 412.	UM
Khedivial, 1223.	UM
Khedivial, 1226.	UM
Khedivial, 1226.	ANS
Khedivial, 1229.	UM
Cf. BM IV, 197.	UM
Paris, 413.	UM
BM IX, 208 ^d .	UM
BM IX, 208 ^d .	UM
BM IX, 208 ^d .	UM
BM IV, 210.	UM
BM IV, 211.	UM
Khedivial, 1249.	UM
BM IV, 215.	UM
Fraehn, Suppl., p. 84.	UM
Milan, CCXXVII.	UM
Paris, 415.	UM
Cf. BM IV, 197.	UM

No.	Metal	Mint	Date	Di.	Weight
428	<i>A'</i>	Al-Iskandariyah	524	20	4.28
429	<i>A'</i>	Al-Iskandariyah	524	21	4.43
430	<i>A'</i>	Al-Iskandariyah	524	20	4.33
431	<i>A'</i>	Şūr	502	21	3.86
432	<i>A'</i>	Şūr	509	21	3.62
433	<i>A'</i>	Şūr	509	22.5	4.38
*434	<i>A'</i>	Şūr	510	21	3.62
435	<i>A'</i>	Şūr	514	20	3.65
436	<i>A'</i>	Şūr	515	20	4.25
437	<i>A'</i>	Şūr	516	21	3.70
438	1/4 <i>A'</i>	Ṭarābulus	x	13	0.62
439	<i>A'</i>	‘Asqalān	503	22	4.22
*440	<i>A'</i>	‘Asqalān	505	22	3.87 pierced
441	<i>A'</i>	‘Asqalān	506	22	3.78
442	<i>A'</i>	‘Asqalān	507	22	4.13
*443	<i>A'</i>	‘Asqalān	509	21	4.05
*444	<i>A'</i>	Miṣr ?	496	22	4.28
445	<i>A'</i>	Miṣr	497	23	3.88
446	<i>A'</i>	Miṣr	498	22	4.30
447	<i>A'</i>	Miṣr	499	22	4.14
448	<i>A'</i>	Miṣr	500	22	4.05
449	<i>A'</i>	Miṣr	501	22	4.35
450	<i>A'</i>	Miṣr	502	22	4.32
451	<i>A'</i>	Miṣr	502	22	4.21
452	<i>A'</i>	Miṣr	503	22	4.14
453	<i>A'</i>	Miṣr	503	22	4.37 pierced
454	<i>A'</i>	Miṣr	504	22	4.18
455	<i>A'</i>	Miṣr	505	22	4.20
456	<i>A'</i>	Miṣr	505	22	4.20
457	<i>A'</i>	Miṣr	506	22	4.20
458	<i>A'</i>	Miṣr	506	22	4.19
459	<i>A'</i>	Miṣr	507	22	4.12
460	<i>A'</i>	Miṣr	508	22	4.28
461	<i>A'</i>	Miṣr	509	21	4.12
462	<i>A'</i>	Miṣr	510	21	4.21
463	<i>A'</i>	Miṣr	511	20	4.15
464	<i>A'</i>	Miṣr	512	20	4.22

Reference	Description	Collection
Khedivial, 1264.		UM
Khedivial, 1264.	Same dies.	UM
Khedivial, 1264.	Different dies.	UM
Khedivial, 1217.		UM
Khedivial, 1239.		UM
Khedivial, 1239.	Same dies.	UM
Cf. BM IV, 197.		UM
Khedivial, 1250.		UM
BM IV, 216.		UM
Khedivial, 1256.		UM
Cf. Paris, 416.	The denomination appears to be spelled الرباعا (for الرباعي?), or الرباع, depending upon whether one reads <i>Ṭarābulus</i> or <i>Aṭarābulus</i> . Cf. Khedivial, p. 190, footnote.	ANS
BM IV, 203.		UM
Cf. BM IV, 197.		UM
Khedivial, 1227.		UM
Paris, 417.		UM
Cf. BM IV, 197.		UM
Cf. BM IV, 197.		UM
Khedivial, 1213.		UM
Paris, 419.		UM
BM IX, 199 ^p .		UM
BM IV, 200.		UM
BM IV, 201.		UM
Paris, 420.		UM
Paris, 420.	Different dies.	ANS
Paris, 421.		UM
Paris, 421.	Different rev. die.	ANS
BM IV, 204.		UM
BM IV, 205.	Fine engraving, in contrast to BM.	UM
BM IV, 205.	Fine engraving; different dies.	ANS
BM IV, 206.		UM
BM IV, 206.	Different dies.	ANS
BM IV, 206a.		UM
BM IV, 207.		UM
Khedivial, 1234.		UM
BM IV, 208.		UM
BM IV, 209.		UM
Khedivial, 1244.		UM

No.	Metal	Mint	Date	Di.	Weight
465	A'	Miṣr	513	20	4.23
466	A'	Miṣr	514	20	3.93
467	A'	Miṣr	515	20	4.04
468	A'	Miṣr	516	20	4.05 pierced
469	A'	Miṣr	517	22	3.81
*470	A'	Miṣr	518	20	4.34
*471	A'	Miṣr	521	20	3.86
*472	A'	Miṣr	522	21	4.56
473	A'	Miṣr	523	20	4.21
474	A'	Miṣr	524	20	4.16
475	A'	Al-Mu'izzīyah al-Qāhirah	518	21	4.23
*476	A'	Al-Mu'izzīyah al-Qāhirah	519	20	4.26
477	A'	Al-Mu'izzīyah al-Qāhirah	520	20.5	4.24
478	A'	Al-Mu'izzīyah al-Qāhirah	521	21	4.20
*479	A'	Al-Mu'izzīyah al-Qāhirah	523	20	4.15
480	Billon	Mint effaced	x	11	—

INTERREGNUM

481	A'	Al-Iskandariyah	525	21.5	4.05
482	A'	Al-Iskandariyah	525	21	4.15
*483	A'	Miṣr	525	20	4.10 pierced
484	A'	Miṣr	526	20	4.27

ABŪ'L-MAYMŪN 'ABD AL-MAJĪD AL-ḤĀFIẒ LI-DĪN ALLĀH

526-544 A.H. = 1131-1149 A.D.

485	A'	Al-Iskandariyah	526	21	3.76
*486	A'	Al-Iskandariyah	528	22	4.39
487	A'	Al-Iskandariyah	531	22	4.64
*488	A'	Al-Iskandariyah	534	22	4.49
489	A'	Al-Iskandariyah	535	21	4.17
*490	A'	Al-Iskandariyah	539	22.5	4.72

Reference	Description	Collection
Paris, 426.		UM
BM IV, 213.		UM
Paris, 429.		UM
BM IV, 217.		UM
BM IV, 221.		UM
Cf. BM IV, 197.		UM
Cf. BM IV, 197.		UM
Cf. BM IV, 197.		UM
Khedivial, 1262.		UM
Khedivial, 1263.		UM
Paris, 434.		UM
Cf. BM IV, 197.		UM
Khedivial, 1260.		UM
Khedivial, 1261.		UM
Cf. BM IV, 197.		UM
Cf. Paris, 438.	Outer margins, if any, off flan.	ANS
Paris, 439.		UM
Paris, 439.	Same dies.	ANS
Cf. BM IV, 228.		UM
BM IV, 230.		UM
Khedivial, 1269.	Al-Ḥāfiẓ as heir apparent.	UM
Cf. BM IV, 236.		UM
Zambaur, Contributions, II, 275.		UM
NZ 1876, p. 75, no. 114 (not described); cf. BM IV, 231.		UM
BM IV, 231.		UM
Schulman, Nov. 1907, no. 906 (not described); cf. BM IV, 231.		ANS

No.	Metal	Mint	Date	Di.	Weight
491	<i>A'</i>	Al-Iskandariyah	541	22	4.26
492	<i>A'</i>	Al-Iskandariyah	542	21.5	4.41
493	<i>A'</i>	Al-Iskandariyah	544	21	4.54
*494	<i>A'</i>	Miṣr	526	20	4.21
*495	<i>A'</i>	Miṣr	527	20.5	3.86
496	<i>A'</i>	Miṣr	528	22	4.20
*497	<i>A'</i>	Miṣr	529	20.5	4.36
*498	<i>A'</i>	Miṣr	529	21	3.93
*499	<i>A'</i>	Miṣr	529	21	3.98
*500	<i>A'</i>	Miṣr	530	21	4.24
*501	<i>A'</i>	Miṣr	531	22	4.00
*502	<i>A'</i>	Miṣr	532	22	4.20
*503	<i>A'</i>	Miṣr	534	21	3.88
*504	<i>A'</i>	Miṣr	534	21	4.06
*505	<i>A'</i>	Miṣr	535	21.5	4.38
*506	<i>A'</i>	Miṣr	536	22	4.43
*507	1/4 <i>A'</i>	Miṣr	536	17	0.95
508	<i>A'</i>	Miṣr	537	22	4.41
509	<i>A'</i>	Miṣr	538	21	4.31
*510	<i>A'</i>	Miṣr	539	21	3.89 pierced
*511	<i>A'</i>	Miṣr	540	20	4.34
512	<i>A'</i>	Miṣr	542	22	4.17

Reference	Description	Collection
BM IV, 233.		UM
Khedivial, 1277.		UM
BM IV, 235	Obv. similar to BM IV, 231. Rev.: عبد الله وولي Inner marg.: عبد المجيد الحافظ لدين الله امير المؤمنين Outer marg.: mint-date (with <i>al-rahmān al-rahīm</i>). Similar to no. 494 except date.	UM UM UM UM
Khedivial, 1271.		UM
Differs from Khedivial, 1273. Cf. BM IV, 236.		UM
As above.	Different dies.	ANS
As above.	Same rev. die as no. 498.	ANS
Cf. BM IV, 236.		UM
Cf. BM IV, 236.		UM
	Obv. as BM IV, 197, but <i>عالم غايه</i> on one line. Rev. similar to BM IV, 231, except mint and date.	UM
Cf. BM IV, 231.		UM
Cf. BM IV, 231.	Different dies.	UM
Cf. BM IV, 231.		UM
Differs from Khedivial, 1275. Cf. BM IV, 231. (Perhaps similar to Mar- kov, p. 354, no. 125, or Zia, 2006).		UM
Cf. BM IV, 231.	Mint-date formula lacks <i>al-rahmān al-rahīm</i> .	ANS
BM IV, 232.		UM
Paris, 441.		UM
Cf. BM IV, 231.		UM
Cf. BM IV, 231.		UM
Paris, 443.		UM

No.	Metal	Mint	Date	Di.	Weight
-----	-------	------	------	-----	--------

ABŪ'L-MANŞŪR ISMĀ'IL AL-ZĀFIR BI-AMRI'LLĀH

544-549 A.H. = 1149-1154 A.D.

513	A'	Al-Iskandariyah	545	20	4.14
514	A'	Al-Iskandariyah	546	19.5	3.63
*515	A'	Al-Iskandariyah	547	21	4.36
*516	A'	Al-Iskandariyah	547	20	3.71 pierced
*517	A'	Al-Iskandariyah	547	21	4.13
*518	A'	Al-Iskandariyah	548	20	4.17
*519	A'	Miṣr	545	19.5	4.06
*520	A'	Miṣr	546	20.5	3.54
*521	A'	Miṣr	548	21.5	4.47

ABŪ'L-QĀSIM 'ISĀ AL-FĀ'IZ BI-NAṢRI'LLĀH

549-555 A.H. = 1154-1160 A.D.

522	A'	Miṣr	549	20	4.23
*523	A'	Miṣr	551	20.5	[4.79]
524	A'	Miṣr	552	20.5	4.05

ABŪ-MUḤAMMAD 'ABDULLĀH AL-'ĀDID LI-DĪN ALLĀH

555-567 A.H. = 1160-1171 A.D.

*525	A'	Al-Iskandariyah	563	20	3.91
*526	A'	Miṣr	556	22	4.14
527	A'	Al-Mu'izziyah al-Qāhirah	565	21.5	4.62
*528	A'	Al-Mu'izziyah al-Qāhirah	566	20.5	4.25
529-	Æ	Mint effaced	x	—	—
530					
531-	Æ	Mint effaced	x	—	—
532					
533-	A'	x	x	—	—
535					
536-	Billon	x	x	—	—
537					

Reference	Description	Collection
Paris, 445 (note the error in transcribing the <i>shahadah</i>).		UM
Markov, p. 985, no. 128 (not described); cf. BM IV, 237.		UM
Cf. BM IV, 237.	Same dies. Different dies.	UM
Cf. BM IV, 237.		UM
Cf. BM IV, 237.		ANS
Cf. BM IV, 237.		UM
Cf. BM IV, 237.		UM
Cf. BM IV, 237.		UM
Cf. BM IV, 237.		UM
Khedivial, 1280. Cf. BM IV, 238. Paris, 447.	Framed and fitted with ring.	UM UM UM
Cf. BM IV, 241. Cf. BM IV, 241. Khedivial, 1284.		UM UM UM
Cf. BM IV, 242.		UM
	Unidentifiable except as Fāṭimid.	ANS
	Unidentifiable except as Fāṭimid.	ANS
	Imitations.	ANS
	Imitations.	ANS

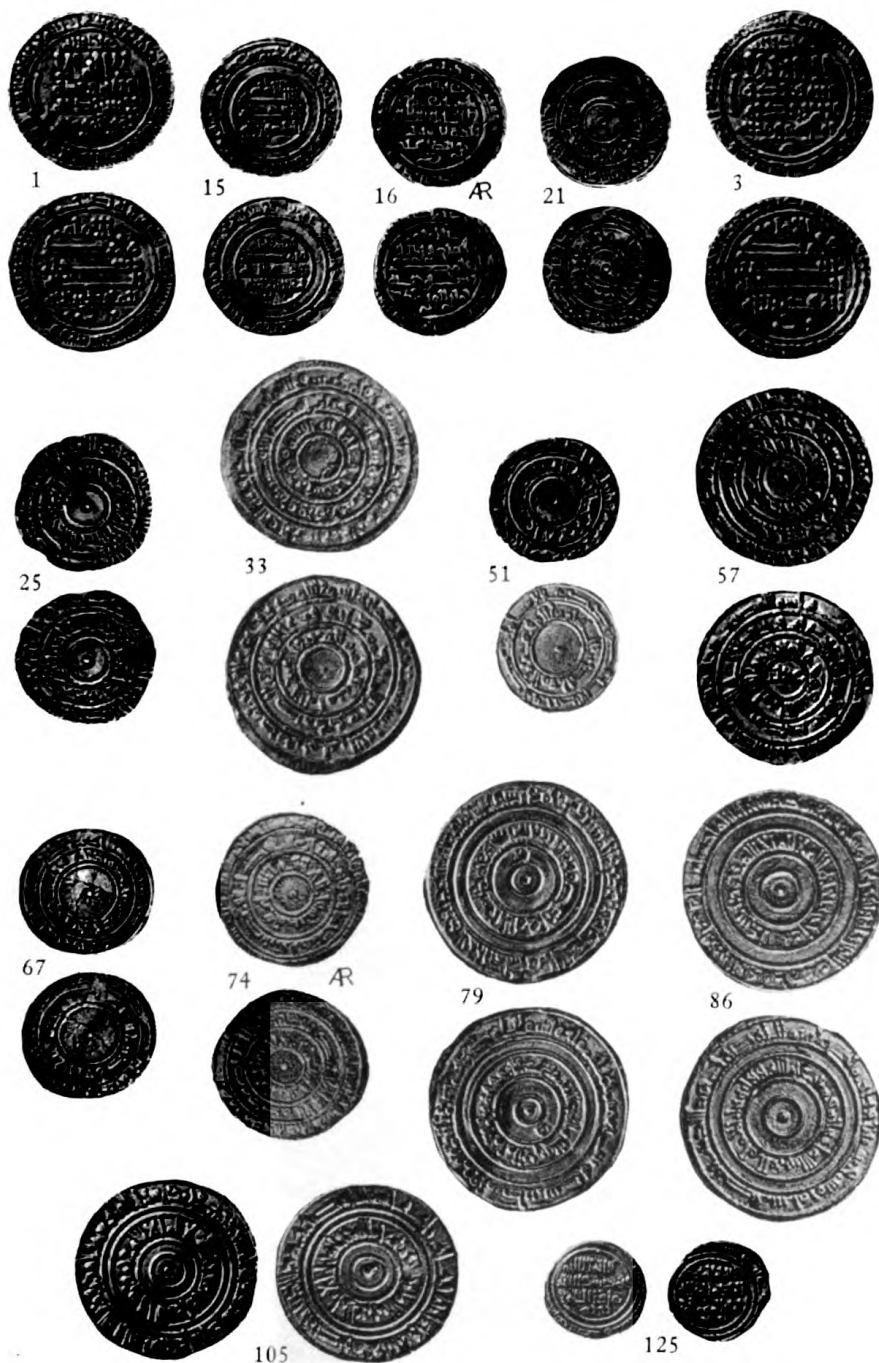
Fātimid Mints and Known Dates of Issue

- الاسكندرية Al-Iskandariyah (Alexandria): 435-436, 438, 450, 463, 465, 467-488, 490, 491, 493-499, 501-515, 517, 519-520, 522-526, 528, 530, 531, 534-535, 539, 541, 543-549, 552, 555, 563.
- اسكندرية مصر Iskandariyah Miṣr (Alexandria of Egypt)?: 337.
- إيلة Aylah ('Aqabah): 314, 514.
- حلب Ḥalab (Aleppo): 429, 442, 444-446, 452.
- دمشق Dimishq (Damascus): 368, 380, 388, 395, 399, 404, 437, 441, 444, 446-447, 454, 459.
- زبد Zabid (in Yaman): 445, 447, 451.
- زويلة Zawīlah (near al-Mahdiyyah): 414.
- صبرة Ṣabrah (= al-Manṣūriyah): 439-440.
- صقلية Ṣiqilliyah (Sicily, *i.e.* Palermo): 337-339, 341-346, 353, 356, 361, 363, 366-367, 369, 374, 377, 380-381, 390, 393-396, 398, 401-402, 404-405, 407-408, 412-414, 417-438, 442, 444-446, 448, 451, 455-456.
- صنعاء Ṣan'a' (in Yaman): 463.
- صور Ṣūr (Tyre): 361, 404, 408, 415-416, 423-424, 430, 434-439, 441-444, 446-447, 450, 452-456, 461, 468, 481, 483-484, 493, 496, 502, 507, 509-512, 514-516.
- طبرية Ṭabariyah (Tiberias): 395, 436, 439, 447, 460.
- طرابلس Ṭarābulus (Tripoli in Syria): 364-365, 367, 379, 394, 408, 410, 431, 433, 435-453, 455, 456, 463-465, 471, 475, 495.
- طرابلس Ṭarābulus (Tripoli in Tripolitania): 370, 374, 415, 425.
- عكا 'Akkā (Acre): 462-463, 466, 472-474, 484, 487, 488, 490, 493, 495.
- عسقلان 'Asqalān (Ascalon): 503, 505-507, 509-510.
- فاس Fās (Fez): 348, 369.
- فلسطين Filasṭīn (Palestine, *i.e.* Ramla): 359, 363-365, 367-371, 373, 375-376, 378, 383, 389, 399, 404, 412, 420, 423-424, 428, 435-436, 438-440, 442-445, 447, 449, 455, 459.
- القاهرة المحروسة Al-Qāhirah al Maḥrūsah (Cairo): 394.
- القيروان Al-Qayrawān (Kairouan in Tunisia): 296-297, 299-301, 303-306, 308, 331, 333, 335.

- المجعية Al-Muḥammadiyah (= Masīlah, M'sila, in Algeria): 320.
 مدينة رسول الله Madīnat Rasūl Allāh (= Medina): 453.
 مدينة السلام Madīnat al-Salām (= Baghdad): 450.
 مدينة قوص Madīnat Qūṣ (Kos in Egypt): 517/9.
 مدينة . . . محمد Madīnat . . . Muḥammad (?): 500.
 مصر Miṣr (Cairo-Fuṣṭāṭ): 341, 343, 353, 358-401, 403-467, 469-470, 472-476, 478-486, 488, 490-546, 548-556, 558, 560-561.
 المزنية Al-Mu'izzīyah (= Cairo?): 356, 362, 470, 564.
 المزنية القاهرة Al-Mu'izzīyah al-Qāhirah (= Cairo): 518-521, 523, 525, 555, 559, 564-566.
 مكة Makkah (Mecca): 366.
 المنصورة Al-Manṣūriyah (near al-Qayrawān): 338-348, 351-371, 375-387, 395, 400, 402, 404-405, 408, 410-412, 414, 416-438.
 المهديّة Al-Mahdiyyah (in Tunisia): 311-312, 314-318, 320-321, 323-324, 326-341, 343, 349, 353, 356-357, 360-384, 386, 388, 390, 392-393, 395-396, 399, 401-402, 404-405, 407-408, 411-412, 414-415, 417?, 419-420, 422, 426-427, 429, 436-437, 447, 449, 453-455, 457, 459, 480?
 "No Mint" (not "mint effaced," but no name): 297, 301, 311?, 314, 316-318, 321-322, 325-328, 346, 347, 352, 354, 356, 357, 360-361, 365, 380, 514, 516.

FĀTIMID COINS

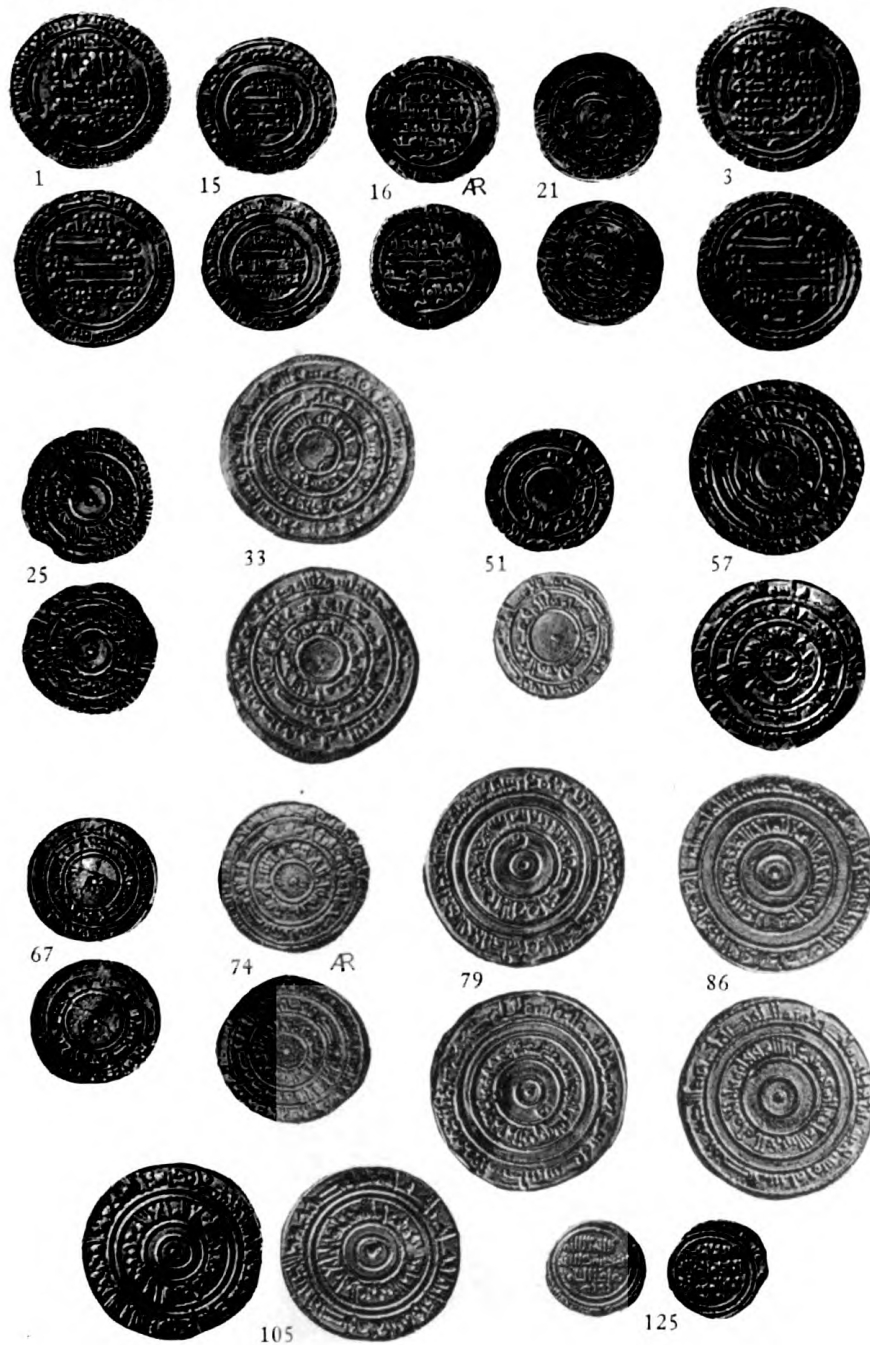
PLATE I



1, 3: Al-Mahdi 15, 16: Al-Manṣūr 21-74: Al-Mu'izz
79-105: Al-'Azīz 125: Al-Ḥākīm

FĀTIMID COINS

PLATE I



1, 3: Al-Mahdi 15, 16: Al-Manṣūr 21-74: Al-Mu'izz
79-105: Al-'Azīz 125: Al-Ḥākīm

FĀTIMID COINS

PLATE II



126-185: Al-Ḥākim 193-234: Al-Zāhir

FĀTIMID COINS

PLATE III



245-254: Al-Zāhir 259-302: Al-Mustaṣṣir

FĀTIMID COINS

PLATE IV



311



314



318



332



343



350



365



369



377



383



386



387



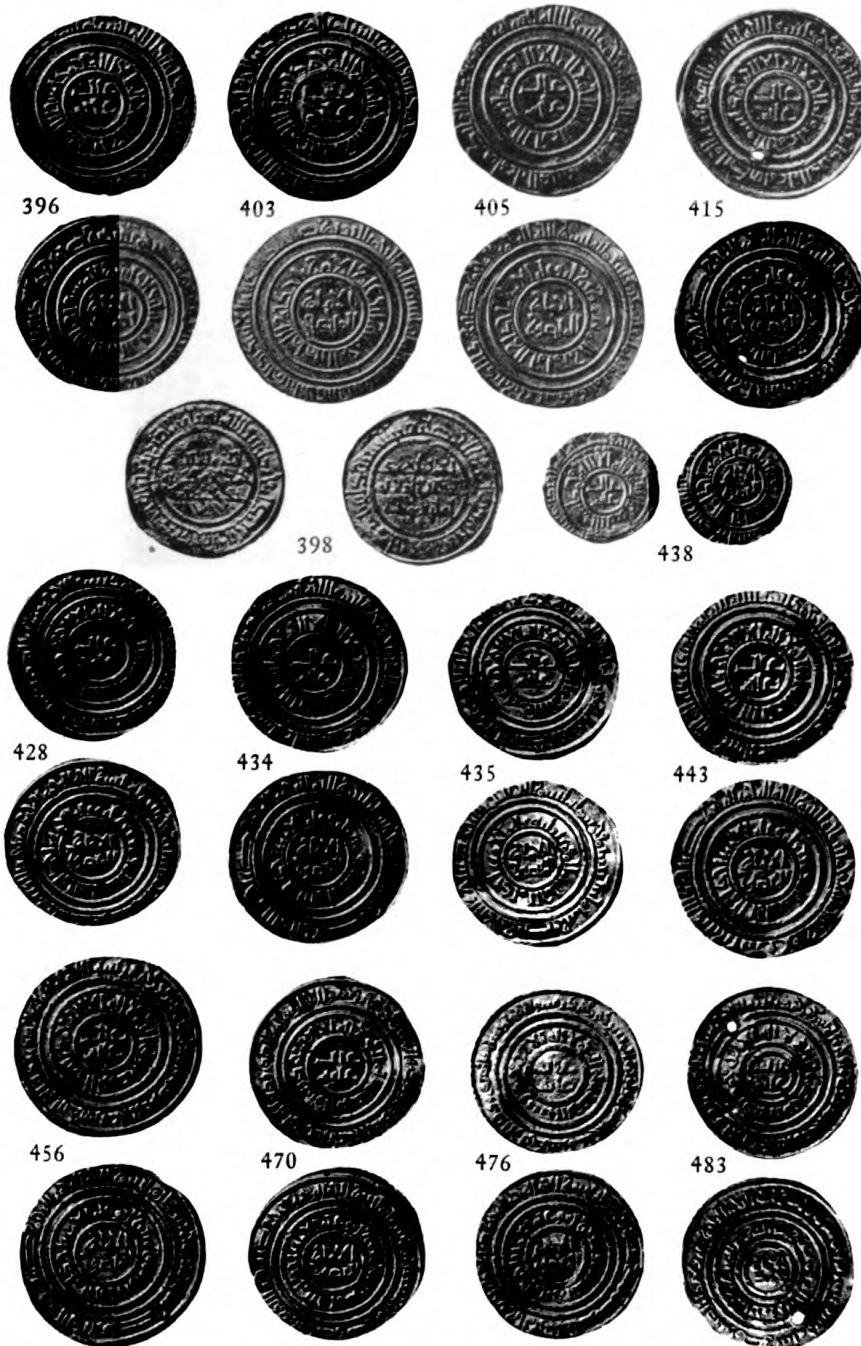
AR

Billon

Al-Mustaṣṣir

FĀTIMID COINS

PLATE V



396, 398: Al-Musta'li 403-476: Al-Āmir
483: Interregnum

FĀTIMID COINS

PLATE VI



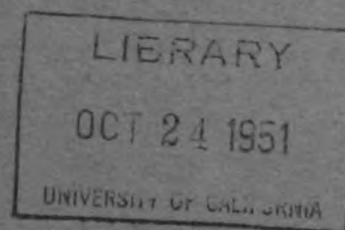
488-511: Al-Ḥāfīz 515, 520: Al-Ẓāfir
522: Al-Fā'iz 526: Al-'Āḍid

NUMISMATIC NOTES AND MONOGRAPHS

No. 122

EARLY CHINESE COINAGE

By WANG YÜ-CH'ÜAN



THE AMERICAN NUMISMATIC SOCIETY

Broadway at 156th Street, New York

1951

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NUMISMATIC NOTES AND MONOGRAPHS

Number 122

NUMISMATIC NOTES AND MONOGRAPHS

is devoted to essays and treatises on subjects relating
to coins, paper money, medals and decorations.

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Early Chinese Coinage

By WANG YÜ-CH'UAN



THE AMERICAN NUMISMATIC SOCIETY

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NEW YORK

1951

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PREFACE

In this monograph we have attempted to make a preliminary reconstruction of the monetary systems of Chinese antiquity. From the pages which follow we hope our readers will find that our attempt has been fruitful.

The reason for the choice of this topic is twofold. Firstly, practically no historical literature has been preserved which provides information concerning ancient Chinese coinages, though the coinages must have played an important part in the nation's economic, social and political development. Secondly, coins of ancient China have been found in such large numbers in recent decades that they should provide helpful data for serious works in the field of historical studies, and negligence to use them should be inexcusable.

The American Numismatic Society possesses, in our opinion, the largest single collection of Chinese coins in the world. Its officers and council have long felt the necessity of such a work as the present one as a step towards developing the scholarly potentialities of its cabinet in the advancement of numismatic and historical studies of Chinese civilization. For this reason, I was generously granted the opportunity and provided with all necessary facilities to prepare this monograph.

The collection of the ancient Chinese coins at the Museum of the American Numismatic Society consists of 4,350 specimens not including cowries, cowrie imitations and the so-called "Ant Nose Money." A part of the Museum's collection was acquired by the Society itself in the course of many years. The greater part was donated by Mrs. Eric N. Baynes, daughter of the late John Reilly, Jr., who during his life time made the collection of Chinese coins his chief interest and built up a very large and excellent cabinet. The bulk of the Reilly collection was originally that of Henry Ramsden, the famous numismatist of the early years of this century. It was on the basis of the collection at the Museum of the American Numismatic Society, occasionally supplemented by information gathered from previously published coin catalogues, that this monograph was prepared.

In preparing the monograph at the Society's Museum, I have enjoyed the complete confidence of Mr. Sydney P. Noe, Chief Curator of the Society, who relieved me from administrative duties in order to let me concentrate on my research. I benefited also from the kind encouragement and advice of Dr. George C. Miles, Curator of Islamic Coins and President of the New York Oriental Club. Everyone of my colleagues at the Museum have extended assistance to me, especially Mr. Sawyer McA. Mosser, Secretary and Editor, and Mr. William L. Clark, Curator of Mediaeval and Modern Coins. To Mr. Mosser I must particularly express my heartfelt thanks for the revision of the manuscript. Without his help this monograph might have never reached the public.

Outside the Museum generous assistance has been received from friends and libraries. Dr. Roswell S. Britton, Professor at New York University, was consulted on various questions. He and Dr. L. Carrington Goodrich, Professor at Columbia University, read the manuscript and made valuable suggestions which have been incorporated in the monograph. Mr. H. F. Bowker, a Fellow of the American Numismatic Society, kindly lent books from his private library, and the Eastern Asiatic Collection of Columbia University, the Chinese and Japanese Library of Harvard University, and the library of the American Geographical Society also extended to me the privilege of using their facilities. Miss Miwa Kai, Senior Assistant at the Eastern Asiatic Collection, Columbia University, frequently assisted me, and checked transliterations of Japanese personal names and titles of Japanese books.

These are only a few of the names which might be mentioned in grateful acknowledgement. The author has likewise benefited from the labor of the coin collectors, numismatists, and scholars in the general historical field of the past as well as from the academic achievements of those of the present.

If any contribution has been made to Chinese numismatics and the historical studies of ancient China in this monograph, it certainly has not been made by this writer alone.

January 1, 1950

Wang Yü-ch'üan

I. INTRODUCTION

I. AN HISTORICAL SKETCH OF ANCIENT CHINESE NUMISMATICS

Though still young as a science, Chinese numismatics has had a long history. It may be said to have had its inception in the sixth century when a scholar named Liu compiled China's first coin catalogue, which was entitled *Ch'ien chih* (Records of Coins). According to Sun I-jang (1848—1908), the numismatist Liu was Liu Ch'ien (484—550) who is better known for his other scholarly works.¹ Liu Ch'ien's catalogue seems to have been lost some time during the Sui dynasty (581—618). Our information about him and his numismatic work is derived from references to him and a few quotations from his writings by a contemporary, Ku Hsüan, compiler of the famous *Ch'ien p'u* (Coin catalogue).²

The text of Ku Hsüan's catalogue has also been lost. The work is recorded in the section on literature in the official history for the Sui dynasty, and passages from it are quoted in the *Ch'üan chih* (Records of Coins) by Hung Tsun (1120—1174).³ Judging from these quotations, Ku Hsüan's catalogue seems to have had no specimens of coins of the Chou period, and of the periods following the Chou dynasty he apparently recorded only the few coins which he had seen himself. The later the coin, the more detailed his description, which usually included the coin's design, its legend and its issuing date. His method of coin description became the pattern for later Chinese numismatists.

Ku Hsüan was followed by a few numismatists during the T'ang dynasty (618—907). Among them the most famous is Fêng Yen, a scholar who is better known for his "Things Seen and Things Heard," whose work on coins is entitled *Hsü ch'ien p'u*, presumably a coin

¹ Sun I-jang 孫詒讓, *Chou-ch'ing shu-lin*, 1916, VI, 19b—20b.

² No. 64 in *A Bibliography on Far Eastern Numismatics* by A. B. Coole, hereafter cited as Coole.

³ Coole 112.

¹ Monograph 113

catalogue supplementing the one by Ku Hsüan. Although this work is lost also, enough fragments have been preserved to give us an idea of the work done in numismatics by the T'ang scholars. The first recorded discovery of Chou coins seems to have taken place in Fêng Yen's time. For each coin known to have come from a find, he recorded the circumstances of its discovery and the conditions under which he was able to examine it.⁴ Otherwise, his statements were confined to the shape and size of the coin and the structural composition of the characters in the legend. He did not, however, venture to interpret the meaning of the legend.

Though limited in scope, the numismatists of T'ang were unpretentious and their reports seem to be reliable. The same cannot be said of the numismatists of the Sung dynasty (960—1279 A. D.) which followed T'ang. By their time both the Early Knife coins and the Old Spade coins of the Chou period had been unearthed. Judging from the information available, all these pieces bore legends. Puzzled by the strange archaic forms of the characters in the inscriptions and firmly believing in the legendary stories of prehistoric China which had been built up gradually since the Han time (206 B. C.—220 A. D.), the numismatists and historians of the Sung dynasty indulged in conjectural decipherment and interpretation of the Chou coin legends. They believed all these coins to be of prehistoric origin. Tung Yu (fl. 1101—1125), compiler of a coin catalogue, assigned some Chou coins as issues of the period of T'ai-hao, a legendary figure of the very early mythical history of China. Dissatisfied with Tung Yu's attribution as being too late, Lo Mi, an historian well versed in legendary history, placed a coin as early as Kuo-t'ien,⁵ another mythical figure who, if he ever actually lived, would have been contemporary with the Peking Man. Hung Tsun's *Ch'üan chih*, the earliest coin catalogue extant, was a product of this period.

⁴ Some of these statements are quoted by Hung Tsun in his *Ch'üan chih* (Coole 112), 1874 ed., IX, 6b, 7a, 12b.

⁵ "Lun pi so ch'i" (On the origin of money), *Lu shih fa-hui* 路史發揮, Ssü-pu pei-yao ed., I 12b—14a.

However ill founded the allegations of the Sung scholars were, their opinions prevailed for some six hundred years in the field of Chinese numismatics and lasted well into the eighteenth century. Liu Shih-lu, one of the foremost numismatists of the nineteenth century, still attributed spade coins of Liang, capital of the state of Wei, of the Chan-kuo period (403—221 B. C.), to the dynasties of Yü and Hsia, both of which precede the Shang dynasty in the second millennium B. C. Another of his conjectures, likewise groundless, considered these coins as issues for use in the payment of fines. His interpretations are contained in his essay, the *Yü Hsia shu-chin shih-wên*,⁶ which later became a classic, widely read and admired by both Chinese and Western numismatists into the early years of the twentieth century. The dependence of Chinese numismatic studies on mythology did not disappear until Ts'ai Yün (1764—1824), an historian and philologist interested in numismatics, declared that the ancient copper coins preserved today were not objects of remote antiquity but were rather currencies which “flourishingly circulated during the Ch'un-Ch'iu and the Chan-kuo periods (770—221 B. C.).”⁷

Like Chinese classics, philology and history, Chinese numismatics witnessed an unprecedented advancement in the Manchu period (1644—1911) and produced a methodology that can be considered scientific. In the decipherment of the coin inscriptions, especially those on the coins of the Chou period, there are the famous names of Ts'ai Yün, Ma Ang and Liu Hsin-yüan.⁸ Of these, Ts'ai Yün is also known for his contribution to the studies of coin chronology. These scholars demonstrated that the legends on the Chou coins are not the names of T'ai-hao and Kuo-t'ien but the names of cities or towns of the Chou period. Not one of these three scholars, however, was a professional numismatist; their chief interest and contributions were historical and epigraphic.

In a narrow sense of the term, scientific numismatics was not

⁶ Coole 385.

⁷ *P'i-t'an* (Coole 342), photostat ed., II, 1b.

⁸ Ma Ang, *Huo pu wên-tzũ k'ao* (Coole 222) and Liu Hsin-yüan, *Ch'i-hu-shih chi-chin wên shu* (Coole 12).

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established in China until the publication in 1864 of the famous catalogue, *Ku ch'üan hui*, by Li Tso-hsien.⁹ This catalogue contains illustrations of more than five thousand specimens accompanied by decipherment of their legends and, whenever possible, notes of their history. The author examined carefully and determined the authenticity of every specimen in his catalogue, and excluded those whose authenticity he could not verify. This careful attitude is not found in the works of any of his predecessors. It may be safely said that his is the first scientific work in Chinese numismatics. Up to the present time his catalogue is still regarded as the best and most reliable by numismatists. It constitutes the backbone of the comprehensive *Ku ch'ien ta tz'ü-tien* (Encyclopaedia of Old Coins) published in 1938.¹⁰

In spite of the progress made by scholars and numismatists in the eighteenth and nineteenth centuries, study of coins in China failed to arouse wide attention. It was pursued largely by a limited group of wealthy gentry and retired officials. These elderly gentlemen, withdrawn from the tumultuous experiences of earlier years, found serenity of life in the companionship of antiquities. In satisfying their personal desires for large collections and in persistent search for rare specimens, they did a great service to the study of an important phase of ancient Chinese civilization in gathering the basic materials for its serious study. The only regrettable fact is that, in many cases, these men, not being trained historians and philologists, were unable to undertake satisfactorily the study of the coins. As a result, they needed the assistance of the epigraphers in deciphering coin legends. These epigraphers, in their study of the inscriptions on Shang and Chou bronzes, were led to the study of those on coins in the hope that it might help their primary work. This situation produced a somewhat bilateral development in ancient Chinese numismatics. On the one hand, the collector-numismatists studied the coin specimens but were unable to contribute substantially in deciphering the legends; on the other hand, the epigraphical scholars studied their inscriptions but neglected all other aspects of the coins. Neither group

⁹ Coole 266.

¹⁰ Coole 240.

possessed the knowledge of the other, but both contributed toward the advancement of ancient Chinese numismatics. If the knowledge and the interest of both had been combined, numismatic studies in China might have advanced further.

Chinese numismatists of the nineteenth century paid little attention in their studies to the evidence of the coins themselves.¹¹ Li Tso-hsien, the foremost Chinese numismatist of that century, did formulate a proposed systematic program for numismatic studies some ten years after his famous catalogue was published in 1864. This embraced investigation of the following: epigraphy on coins, metrology, the shapes and designs of coins, provenance, stories and anecdotes about coins and collectors, and rare specimens and specimens recorded but not seen.¹² Li's proposed methodology marked a great step forward. Especially commendable is his emphasis on inquiry into the provenance of coins and their metrology. Yet, effort along these lines alone is not sufficient to enable us to exploit fully the evidence that coins can provide concerning the history of economic institutions. Study of the physical characteristics of the coins and of their inscriptions constitute the foundation of Chinese numismatics, but they alone are not enough. In order to fully understand the historical significance of the coins we must examine them against the general political, social and economic background of the period in which they circulated. Therefore, a competent numismatist must not only be an able coin examiner but an epigrapher and historian as well.¹³ So far, no Chinese numismatist has attained this happy combination.

In recent years, serious attempts have been made to raise the level of numismatic studies in China. In 1938, Ting Fu-pao published the

¹¹ This criticism is voiced by Sun I-jang, *op. cit.*, (see above, n. I), V, 21b.

¹² "Hsü ch'üan shuo" (Supplementary Remarks to the Discussions on Coins). *The Discussions on Coins* or *Ch'üan shuo* was written by Pao K'ang, (Coole 296), 1874 ed., 17b. The article is an appendix in the *Kuan-ku-hê ts'ung-kao* by Pao K'ang (Coole 298).

¹³ Lo Chên-yü has also observed that a numismatist must have training in philology and history, and the ability to determine the authenticity of the coins. *Yung-lu jih-cha* (Coole 392), photostat ed., 25b.

coin encyclopaedia, *Ku ch'ien ta tz'ü-tien*. In this work he entered many published specimens of Chinese coins and specimens in the possession of private collectors in China. A large proportion of the illustrations are reproductions from coin rubbings. Under each specimen he has given all previously published statements and discussions concerning it, and these have been reproduced by photographic process so that they may contain no errors. It is the most comprehensive coin catalogue in Chinese.

In 1940 the Chinese Numismatic Society was established in Shanghai by a group of coin collectors and numismatists. It published a bi-monthly *Ch'üan-pi*, known in English as *Chinese Numismatics*, to promote numismatic studies. In his introductory words explaining the plans and aims of the Society in publishing the bi-monthly, Chang Chiung-po outlines a program of numismatic studies which the members of the organization are asked to follow. He first expresses his dissatisfaction with the attitude of Chinese scholars and historians who have hitherto regarded coins as "small things" unworthy of their attention. He urges rectification of this mistaken attitude and the recognition of coins as valid historical material. He suggests that "systematic researches" must be made of them in which the examination of actual specimens be made, historical records be consulted, and that coins be treated as relics of an economic and historical institution which can be studied in the light of monetary theories. Commenting on the situation in which persons writing about the history of coinage do not actually handle the coins and those who actually handle them lack the necessary scientific training to write about coinages, he states that there must be a combination of both.¹⁴

On the whole, Chang's program is well conceived, as it pointedly sets out to rectify the weaknesses in past Chinese numismatic studies. The bi-monthly appeared periodically until the end of 1945. It carried some interesting discussions and a number of articles which were written on a much higher level than ever before. But on the whole the

¹⁴ See the explanatory note on the publication of the *Ch'üan-pi Bi-monthly*, or *Chinese Numismatics* as it is called in English, No. 1, 1940, pp. 2—3.

effort of the members of the Chinese Numismatic Society fell short of the goal set by Chang Chiung-po.

However imperfect the writings of the members of the Chinese Numismatic Society may have been, their efforts in themselves are significant contributions toward advancement of numismatic studies in China. It is regrettable that the bi-monthly of the Society had to exist during the Japanese aggression in China and thus had its influence greatly limited.

In Japan, Chinese numismatics has been a favorite field with some Japanese sinologists. In that country, too, the study of old coins was generally regarded as a hobby of collectors with means and leisure, and was not accorded the attention it deserved until recently. In the last few decades Japanese archaeologists have conducted some extensive excavations in Korea, Manchuria and Jehol, and in many of the old Chinese remains they found coins of the Chou, the Han and Wang Mang Periods, with which they dated the remains. The discovery of ancient Chinese coins by these archaeological missions seems to have stimulated numismatic interest among Japanese scholars. Probably for this reason, ancient Chinese coins, not only those unearthed from the old remains but also those in the hands of collectors, suddenly acquired the dignity of archaeological objects. It was among Japanese scholars that the question of the initial date of Chinese metallic coinage was first discussed in a scholarly manner.¹⁵ These discussions did not prove very fruitful because historical scholarship was not well combined with actual knowledge of the coins, and because the historical sources were not fully understood and exhausted. However, a proper approach was made toward one of the many problems of Chinese coinage.

In 1938, the same year in which the *Encyclopedia of Old Coins* was published in China, the *Tōa senshi* (Catalogue of Eastern Asiatic Coins) by Okutaira Masahiro appeared in Japan.¹⁶ The catalogue consists of eighteen volumes of which twelve are devoted to Chinese coins. The specimens listed in it are illustrated with reproductions of

¹⁵ For discussion of the dating of ancient Chinese coinage, see pp. 100—114.

¹⁶ Coole J—162.

well-made rubbings. Besides its typographical excellence, the work can be commended for the number of specimens of rare coins of the Chou period it includes which are not to be found in other coin catalogues. In the decipherment of a number of the controversial coin legends, Okutaira follows the suggestions of Liu Hsin-yüan and Kuo Mo-jo, noted Chinese experts in epigraphical studies of the Shang and Chou bronzes, whose decipherments have been neglected so far by Chinese numismatists. Closely following Kuo Mo-jo, Okutaira attempts to reconstruct the early history of Chinese coinage by making use of the inscriptions on the bronzes of the Shang and Chou period. We know of no Chinese numismatists who have ever systematically utilized this valuable source of information.

Another merit of the catalogue is its illustration of a few specimens of silver ingots and paper money, through which Okutaira has shown superiority over his Chinese colleagues in the realization that study of copper coins alone is not sufficient for a complete understanding of the Chinese monetary system. The work, however, contains no illustrations of coin moulds, also important material in the study of Chinese historical coinages, and a few of those which are listed are likely fabrications.

In the Western languages, books and articles on Chinese coinage and monetary history have been published in French, English and German. The names of Biot, Vissering and Lacouperie are the most prominent. While in China the effort to reconstruct a general monetary history of China was motivated by the study of the ancient coins and their inscriptions, in the West that effort seems to have been a result of literary researches. The material on which the works of both Biot and Vissering¹⁷ are based is of such a nature. There were no studies of ancient Chinese coins on an appreciable scale until Lacouperie, who in 1892 published his *Catalogue of Chinese Coins*. This work is the most comprehensive treatment of the earlier Chinese coins yet produced by a Western numismatist.

¹⁷ Édouard Biot, "Mémoire sur le Système monétaire des Chinois" *Journal Asiatique*, 3^e série (1837), III, 422—465; IV, 97—141, 209—252, 441—467 and Willem Vissering, *On Chinese Currency*, Leiden, 1877.

In preparing his work Lacouperie benefited from the intellectual heritage of the Western world. At his time, the numismatic studies of Greece and Rome had developed to maturity, and Lacouperie was able to draw upon the experience of the classical numismatists in tackling some of the problems in Chinese numismatics. This is probably the reason why he shows superiority over his Chinese contemporaries in his historical approach to Chinese coins. However, being a Westerner, Lacouperie naturally suffered from handicaps in preparing his work. He had insufficient training in the Chinese language to avoid misunderstandings of the texts of Chinese historical records.¹⁸ His knowledge of Chinese ancient history appears rather limited, and his inexperience in determining authenticity of the coins caused him to enter many spurious specimens in this catalogue.¹⁹ He does seem to have had training in Chinese philology — the “ancient script” and its evolution — which is absolutely indispensable in deciphering the coin legends or in judging the plausibility of the decipherments which have been advanced. While in most cases he follows the decipherment of Chinese scholars, he has been confident enough to make up some of his own, on which he formed his theory of the so-called “monetary unions.” As L. C. Hopkins has pointed out,²⁰ Lacouperie sometimes offers his conjectures as if they were facts, and he makes statements which actually have no foundation.²¹

¹⁸ For instance, on page xiv Lacouperie states, “Su, Prince of Tchao, grants to Tchang-y, a secret political agent of Ts’in, the privilege of issuing *pu* coins of the saddle-pattern.” I have not been able to verify the one reference given for this statement, and presume that it relates to the story that Su Ch’in, minister of the king of the state of Chao (Tchao), persuaded the king to “give money, gifts, carriage and horse” 金幣車馬 and send a man to secretly follow Chang I (Tchang-y) to Ch’in (Ts’in) (*Shih-chi* LXX, 2a). Here no grant of the privilege of issuing *pu* coin is involved, and Chang I was not at this time a secret political agent of Ch’in.

¹⁹ E. g., p. 16, no. 40; p. 120, no. 41; p. 121, no. 52; p. 223, no. 53; p. 224, no. 54; p. 225, no. 55; p. 226, no. 103; p. 299, no. 102; p. 298, and many others.

²⁰ L. C. Hopkins, “On the Origin and Earlier History of the Chinese Coinage,” *Journal of the Royal Asiatic Society*, 1895, 318.

²¹ E. g. his allegations that Chi-mo (Tsih Moh) was a mint of Lang-yeh (Lang-ya) which was a Western settlement on the Shantung coast (p. lxiii).

We should not, however, underrate Lacouperie's contributions because of these shortcomings. If we read his book against the background of his time, we realize it was an admirable accomplishment. When we examine the discussions and publications which appeared after him and in which his influence can be directly or indirectly detected, we must recognize that he contributed much toward the advancement of Chinese numismatics in the Western world.

Next to Lacouperie among Western numismatists we find the name of Henry A. Ramsden. A scholar and a collector who collected to study, he promoted interest in the study of Oriental coins in general and Chinese coins in particular. "During his life," states H. F. Bowker, "he was the prime-mover in the study of the coins of his speciality, and was most probably the direct cause of the popularity which the coins of the Orient enjoyed in the United States during the last years of his life."²² In 1913 and the year following he edited the *Numismatic and Philatelic Journal of Japan*, the bilingual organ of the Yokohama Numismatic Society of which he was then the chairman. The journal devoted part of its pages to the study of Chinese numismatics. In that field Ramsden's interest covered a wide range from "barter money" to modern coinage, from metallic currency to paper money. A complete list of his works is found in "Ramsdeniana," in which the author praises him as "the foremost writer and most competent occidental authority in . . . Far Eastern numismatics" at the time of his death in 1915.²³

Since 1915 sinological studies in both Europe and North America have advanced considerably, and consequently the interest in Chinese coins has grown wider not only among collectors and museums but also among students of Chinese history. Yet, ancient Chinese numismatic studies have not progressed as might be desired.

In 1934, a group of Westerners residing in China formed the Numismatic Society of China in Shanghai, and subsequently published six bulletins, all of which deal with the modern coinage of China. In 1940, after the Chinese Numismatic Society was established, it associated

²² "Ramsdeniana," *The Coin Collector's Journal*, VIII (1941), 76.

²³ *Ibid.*

itself with the latter in an attempt to combine the efforts of both organizations in the promotion of Chinese numismatic studies in China and abroad.

If, in the last thirty years, Western numismatists have not produced commendable work in the field of ancient Chinese coinage, a preparatory step has been well taken in the publication *A Bibliography on Far Eastern Numismatics* by A. B. Coole and *A Numismatic Bibliography of the Far East* by H. F. Bowker. The former bibliography is devoted to the listing of numismatic works in Chinese and Japanese, while the latter, supplementing the former, covers the literature in Western languages. Both were carefully prepared and are convenient reference works.

In the above sketch we may have appeared hypercritical in some of our remarks. It is not intended to discredit our predecessors. The scholarship of one man is bound to be limited, as are his physical energy and the scholarly achievement of his age. If, at the present, numismatists are able to see more problems and penetrate more deeply into them, this is largely owing to the advancement of historical studies in general and Chinese numismatics in particular. Without the effort of the numismatists of the past in collecting the material and preparing the preliminary studies, any new and constructive contributions would be inconceivable.

2. DIFFICULTIES IN THE STUDY OF ANCIENT CHINESE COINS

A. Decipherment of Legends

Observations on the size, weight, fabric, and mint locations of coins can shed invaluable light on the early monetary history of China. The valid interpretation of any of these elements depends on the correct decipherment of the coin's legend. As we have already noted, decipherments of coin legends have in the past been made by epigraphical scholars whose main interest was ancient script and not coins. As a rule, collector-numismatists have followed the readings of these scholars, but, in cases where none had yet been made, they attempted

their own. They were not trained in epigraphy, and some had not even enough knowledge of philology to determine which of several possible decipherments was the most plausible. Often a collector's guess would be colored by an eagerness to enhance the value of his coin.

The mint name 蘭 (*lin*, written 蘭 in modern script) on a group of late spades has been variously read as 魯 (*lu*), 魚 (*yü*), 黃 (*huang*), 黃父 (*huang-fu*), 郟 (*chia*), 藿 (*huo*), and 關 (*kuan*). The last reading, *kuan*, which was suggested by Ma Ang and publicised by Li Tso-hsien, prevailed in the numismatic world for many years. It was followed by Lacouperie and all other Western numismatists. Since neither Ma Ang nor Li Tso-hsien found Kuan as a place name in historical literature, they assumed the character to be an abbreviation for "*kuan-chung*," a term denoting a region which is now central Shensi. Lacouperie mistakenly called it the "capital city of Ts'in." The correct decipherment of the character, strangely enough, is said to have been made many years before the above suggestions were advanced, by Sun Hsing-yen (styled Yüan-ju, 1753—1818), a scholar in Chinese classics and philology and not a numismatist.²⁴ Sun deciphered the character as the name of a town in the state of Chao during the Chan-kuo period. All numismatists acquainted with recent numismatic studies follow his decipherment.

Superior as opinions of epigraphical scholars are in decipherment of coin inscriptions, they are not always correct. Take the character 𠂔 for instance, which appears on many Late Spades. Some numismatists read it *pa-huo* 八七 or "eight *huo*,"²⁵ the latter character being used here in the sense of a denominational unit. This reading is incorrect. Actually, it is a single character, not a monogram of two; and no part of the character can be construed as *huo*. Epigraphical scholars read it as *fên* 分, meaning "belongs to the reign of."²⁶ This decipherment is also wrong, for it is not suggested on the basis of the

²⁴ Quoted by Hsü Yüan-k'ai (*Ku ch'ien ta-tz'ü-tien*, XIII, 499a).

²⁵ Such as Li Tso-hsien, *op. cit.* (see above, n. 9), *yüan* III, 1b.

²⁶ Such as Liu Hsin-yüan, *op. cit.* (see above, n. 8), XIX, 7b ff. and 23b.

character's structural identity with *fên*, but on its resemblance to it. The correct reading is *pan* 半 (half), a denominational term (with the name of the unit understood) of the coinage of the Chou period. When these coins were in circulation there were only two denominations, a full unit and a half, the unit being *chin* 釐. The weight of the coin bearing the legend *pan* (half) is just half that of the full unit piece.²⁷ Had the epigraphers gathered and weighed specimens of both sizes they would not have escaped this conclusion. The same holds true for the deonominal term *liang* 兩 which is found on the larger spades of the state of Ch'in (Late Spade IV) and which has been improperly deciphered.²⁸ By weighing spade coins of Liang of various sizes, Kuo Mo-jo, an able contemporary epigrapher, ascertained the correct reading of the eight-character legend which they bore.²⁹ It was only after an investigation of the provenance of a group of late square foot spades that Okutaira accepted Kuo Mo-jo's suggestion that their legend reads "Hsiang-p'ing," a mint located in present day southern Manchuria.³⁰ These examples show how important it is to combine epigraphical and philological with numismatic evidence. The use of one of these types of evidence to the exclusion of the others constitutes one of the chief obstacles encountered in numismatic works of the past as well as the present. It is this situation which is responsible for many unacceptable decipherments, which will have to be reconsidered or discarded in the present study.

B. Use of Epigraphical Evidence in Dating Coins

Some numismatists may cherish the idea that a comparison of the epigraphy of the coins with that of the bronze vessels of the Shang

²⁷ Okutaira Masahiro has also found this correct decipherment. *op. cit.* (see above, n. 16), III, 15b.

²⁸ Li Tso-hsien reads it as *tsai* 宰 meaning "the official of the town of," in other words, the official of the mint whose name appears on the obverse of the coin. *Op. cit.* (see above, n. 9), *yüan* IX, 4b. For a correct explanation of the denominational term see p. 000.

²⁹ Kuo Mo-jo 郭沫若, *Liang Chou chin-wên ts'ü ta-hsi k'ao-shih*, Tokyo, 1935, 13b.

³⁰ *Ibid*, IV, 15b.

and Chou periods should furnish criteria for dating the coins. This task, however, is not as easy as it appears at first glance.

There are two aspects of ancient Chinese epigraphy: (a) the structural form of the character and (b) the style or manner of executing the character. So far as the structural form of the characters is concerned two changes have taken place which have bearing on the epigraphical chronology of Chinese script. In the course of time, many characters have undergone simplification while many others have become more complicated through acquisition of significs (i. e., radicals signifying "water," "walled city," etc.). In other words, with some characters, the more complicated their form the older they are; with others, the simpler their form, the older they are. On coins of the Chou period we sometimes find simpler forms of characters of the second group in inscriptions of pieces of a considerably late date, when the complicated form of the character had become the norm. Because of this circumstance, dependence on coin epigraphy alone will fail to determine correctly the date of a coin.

The style of Shang bronze inscriptions is characterized by a peculiar execution of the strokes. Each end of the stroke is usually very thin while the central part is broad and thick. This style of script has been called the K'o-tou, or tadpole, script. However, the tadpole script is found also to be the dominant style in inscriptions of the early years of the Chou period. Without considering its content along with other factors, even an expert epigrapher cannot determine to which period an inscription in the script belongs.

The period of the Chou dynasty is, for convenience sake, usually divided into three smaller periods: The Western (Early) Chou period covering almost three hundred years from 1122 B. C. (traditional date) or 1027 B. C. to 771 B. C.; the Ch'un-ch'iu period from 770 to 481 B. C.; the Chan-kuo period ending in 221 B. C. During the first period bronzes were almost entirely made by or for kings and ministers of the royal court; during the second and third periods they were made practically only by rulers and nobles of the various feudal states. The style of the inscriptions of these three periods were roughly

the so-called *Ta-chuan* (great "seal" character), the *Chou-wên* (slightly simplified *Ta-chuan*), and the *Hsiao-chuan* (small "seal" character). Whether the *Ta-chuan* can be regarded as also the style used in the various feudal states during the first period and whether the other styles found in the various feudal states can be regarded as also the style in the royal domain of Chou during the second and the third periods cannot be said with absolute certainty, especially when we realize that, though so simply stated above, the styles of script during the second and the third periods of Chou present strong local divergence. All these factors complicate any attempt to use comparative study of coin inscriptions and bronze vessel inscriptions in determining dates of coins.

Even if we disregard these complications, dating of coins by comparative study of inscriptions on bronzes is made impossible by another circumstance. Coins and bronzes have different epigraphical styles which result from the difference in their purpose and in the techniques of inscribing them. On bronzes, inscriptions were cast on the vessels, which were made in honor of the maker's forefathers or other relatives, to commemorate a victory in war or a royal or princely grant, to glorify his enfeudation as a prince or his appointment to an office, to record an important event or a settlement of a dispute. The personages involved are always kings, princes and upper class nobles. Some of the vessels bearing the inscriptions commemorating enfeudations were kept in the ancestral temples by princes and venerated as symbols of the existence of their states. They thus had a monumental character and their inscriptions were accordingly rendered in a conventional and elegant manner.

The coins were not personal treasures of kings, princes or nobles; they were made to be used as media of exchange in a society, the overwhelming majority of which was illiterate. Inscriptions on the coins are merely marks indicating the mint's name, sometimes the serial number of minting, and occasionally also the denomination. To coins of full intrinsic quality, whose value depends largely on their alloy and weight, these marks are not essential; accuracy and elegance

in style of character are matters of secondary importance. That is probably the reason why the inscriptions on the coins are generally crudely rendered, while those on bronze vessels are usually models of calligraphy. A comparative stylistic study between crude script and highly developed calligraphy is hardly possible.

Furthermore, whereas the inscriptions on the bronzes were, as generally acknowledged, written by persons with training in calligraphy, those on the coins were left to artisans at the mint, who did not always follow the conventional style and contracted the structure of the characters to the extreme. Technically, inscriptions on bronze vessels were cast from a mould which was made from a model, on which both the designs and the inscription were carved out to the desired fineness. The inscription on the coin was, on the other hand, cast from a mould which was not made after a model and on which the inscription was carved directly and in reverse. As a result, the strokes of the characters on coins were generally in contracted straight lines, for these were much easier to make than curved lines. The straightening of lines and consequently the contraction of the structure of the characters further reduces the possibility of a satisfactory comparative stylistic study of the coin inscriptions with those on bronze vessels.

Can we detect an evolution of style within coin inscriptions themselves with which we may find out the order of appearance of the coins? This question also brings complications. The fact is that the coins were cast by local mints many of which undoubtedly belonged to princes and minor nobles and even wealthy private individuals. Under these circumstances local character and individual inclinations could not but exert their influence. T'ang Lan, a contemporary epigrapher who has specialized in the study of inscriptions on oracle bones and bronzes of the Shang and Chou dynasties, holds the opinion that during the Chou period the style of script in common use was much more simple and irregular than the official script and that it had influenced the official writings towards the end of the period.³¹

³¹ T'ang Lan 唐蘭, *Ku wên-tzû-hsüeh tao-lun*, Peiping, 1935, I, 51a.

Local variances render the study of the evolution of the style of coin inscriptions difficult if not altogether impossible. The curious thing is that we find some of the most archaic forms of characters on comparatively late coins cast in the border regions of Chou China, where, sociologically speaking, as in modern colonies, conservatism was usually stronger than the central area.

However, this does not mean that epigraphical studies have no bearing at all on the determination of coin chronology. On the whole, we may say they do, but only in a general way. They can be applied only in the cases in which stylistic distinctions can be positively established and this is possible only with either the very old or the very late coins. The older the coins are, the closer is the style of their inscriptions to the *Ta-chuan* (great seal character), and the later the coins, the closer to the *Hsiao-chuan* (small seal character). The former is identified with the epigraphical style of the inscriptions of the vessels of the Western Chou period, and the latter is the style officially adopted and made universal in 221 B. C. In structure, the *Hsiao-chuan* is much simpler.

C. Lack of Historical Records and Archaeological Reports

Another difficulty in studying ancient Chinese coins is the lack of literary records. Excepting the simple terms of *pei* (cowrie), *tao* (knife coin) and *pu* (spade coin), other data regarding the ancient Chinese monetary system is not found in historical literature. The widely believed traditional story about the casting of the "big coins" by King Ching of Chou in 524 B. C. is embodied with unreliable elements (i. e., the remarks made by Shan-mu-kung). The anecdote that King Chuang of Ch'u (613—519 B. C.) aroused resentment among his people by replacing "light" coins with "big" coins, which also has been regarded as factual, must be accepted with reserve. The story recorded in the *Kuan-tzu* and the "present edition" of the *Bamboo Annals* that Ch'êng-T'ang, founder of the Shang dynasty, cast metallic money is pure folklore. Even if these stories were reliable, they still contain no essential information on ancient Chinese coinage.

The only reliable material in our possession with regard to monetary systems in Chinese antiquity are the coins themselves, but some problems presented by them are hard to resolve because of the lack of historical records.

The major problem that suffers from lack of historical records concerns the date of the origin of coinage in China. The difficulty in dating the earliest coins would be also considerably less if the conditions were known under which the coins had been discovered.

What knowledge we have about discoveries of coins is scanty. In the scientific excavations of the Academia Sinica at early Chou and pre-Chou sites in North China only cowries were found.³² The excavations at Ch'êng-tzŭ-yai in eastern Shantung produced only a broken handle from an early knife coin.³³ Ming knives were unearthed among old remains in I county of Hopeh Province by an expedition led by Ma Hêng in 1920.³⁴ These knives, however, were very late in date. Mr. Kuo Pao-chün of the Academia Sinica has reported to the author that a number of pointed-foot hollow-handle spades were discovered in Chou tombs of Chün County, Honan. During the last fifty years Japanese archaeologists have excavated both spade and knife coins of the late Chou period in Jehol, Manchuria and Korea.³⁵ Except for those reported by Kuo Pao-chün and the handle of the knife coin, there are no reports by excavators of the discovery of early coins.

Coins of the earlier periods have been found casually, for the most part by farmers while tilling their fields. From the farmers they passed to collectors, either directly or through coin dealers. Thus, by the

³² See *An-yang fa-chueh pao-kao* 安陽發掘報告 *T'ien-yeh k'ao-ku pao-kao* 田野考古報告 and *Chung-kuo k'ao-ku hsüeh-pao* 中國考古學報.

³³ *Ch'êng-tzŭ-yai* 城子崖 Nanking, 1934, 89 and Plate LII, no. 9.

³⁴ Fu Chên-lun, "Yen hsia-tu fa-chüeh pao-kao," *Kuo-hsüeh chi-k'an* 國學季刊 III (1932), 180.

³⁵ See the volumes of the *Archaeologia Orientalis* 東方考古學叢刊, a series published by the Tōa Kōkōgaku Kwai from 1929 on. The results of these discoveries and those made in Korea have been summarized by Fujita Ryōsoku 藤田亮策 (1892 —) in his "Chōsen hakken no meitō-sen to sono iseki," *Keijo Teikoku Daigaku Bungaku Kwai ronsan* 京城帝國大學文學會論纂 No. 7, *Shigaku ronsan*, 史學論纂 1—88, 1939.

time they reach the hands of collectors they are isolated objects, completely dissociated with the site of discovery and the other objects with which they had originally been deposited. This condition would not obtain, had their discovery been made under the trained observation of archaeologists. The situation becomes the more regrettable when we realize that tens of thousands of Chou coins have been casually retrieved and, so to speak, lost again.

Among the late spade coins there is a group, which, as forerunners of the *pan-liang* (half *liang*) round coins of imperial Ch'in, are important for the reconstruction of early Chinese coinage. The group is of the round-footed type with three holes (Late Spade IV). Their monetary unit is the *liang*, as is specified on the reverse legend, and so far one *liang* and half *liang* (i. e., 12 *chu*) pieces have been found. Fifteen specimens from nine different unidentified mints are known.³⁶ If the places of their discovery and the conditions of their finding were known, it might be possible to locate their mints with some certainty.

D. Identification of Mint Names

The fourth major difficulty in the study of the Chou coins lies in the identification of the mint names. This difficulty arises not from the lack of historical information, but from, so to speak, the mass of it. With the exception of a few early spades, the coins of the Chou period, be they knives or spades, usually bear a legend or legends on both their obverse and reverse. Part of, or the entire, legend on the obverse is the name of the mint which cast the coin. By locating these mints a reconstruction of the distribution of the coin types can be achieved and the problem of the right of coinage of the minor feudatories can be investigated. But during the Chou period, towns in different states, and sometimes in the same state, may have the same name.³⁷ For

³⁶ For the illustrations of these specimens see Okutaira, *op. cit.* (see above, n. 16), IV, 71b—74a and *Ku ch'ien ta-tz'ü-tien*, VII, 406b, no. 1226.

³⁷ For a general idea of the situation of confusion see Ku Tung-kao 顧棟高 (1679—1759), *Ch'un-ch'iu ta-shih nien-piao*, 1752, VI, Part 2, 25a—34a for the Ch'un-ch'iu period. For the Chan-kuo period see Ku Kuan-kuang 顧觀光 (1799—1862), *Ch'i-kuo ti-li k'ao*.

instance, we find "An-yang" as a mint name in the legend on one group of the early knife coins. In literary sources we find three towns of this name. There are four towns with the name "Chung-tu," which is found on a group of square-foot late spade pieces (Late Spade II). For "P'ing-yang," which appears as the mint-name of some square-foot late spades, there are five towns. Seven are found for "Hsin-ch'êng" (meaning "new city"), a mint name on a group of point-footed late spades (Late Spade I). Such examples would make a long and tedious list.

To identify the mints with towns recorded in historical literature is not easy, and there is no literary information available which will help. In solving the question we must depend mostly on our knowledge of the coins themselves. With some degree of certainty we may presume that coins within a general given area will have similar shapes and designs, that they will have the same denominational system. Therefore, by studying these aspects of the coinage of towns neighboring the possible mint we may be able to identify and locate it. Thus, we reach the conclusion that the mint An-yang of early knife coins must be the one located in present southeastern Shantung for the reason that during the Chou period towns outside of that province did not use the early type of knife coin. The An-yang of the round-footed spades with three holes (Late Spade IV) is most likely the one located in present northern Honan which was captured by Ch'in in 257 B. C., for this type of spade coins is probably of Ch'in origin. We can approach the tentative solution of the locations of Chung-tu and P'ing-yang by the same method.

Not all of the mint names which appear on the coins can be found in the literary sources. As a matter of fact, many cannot be. In such cases, to reduce our difficulties in locating the mints to a possible minimum, we may resort to the locations of the mountains, rivers, and other landmarks after which early settlements in China were often named. For example, "Chi-yin," a mint name on some of the round coins of Chou, is not found in the literature of this period. The meaning of the place name is "on the *yin* side of the Chi." This means

that the town in question was located on the *yin* side of either a mountain or a river by the name of Chi. In Chinese antiquity there was no mountain of this name, but one of the four most important rivers was so designated. It traversed the western part of present Shantung. The *yin* side of a river is its southern side, and therefore, the town in question must have been located on the southern side of the Chi River. Since this town was named Chi-yin, there may have been also a town named Chi-yang (meaning "on the northern side of the Chi River"). Luckily, a town by this name did exist during the Chou time and is recorded in the contemporary literature.²⁸ It was located northeast of modern Lan-fêng in eastern Honan (approx. 115E and 35N). Judging from their names, the towns of Chi-yin and Chi-yang may have been opposite to each other, or at least they must have been located in the same neighborhood. This assumption is confirmed by the location of a city also named Chi-yin in the third century B. C. It was the capital of a Han province of the same name. The city was located about a mile northeast of modern Ting-t'ao in southeastern Shantung, and about thirty miles northeast of old Chi-yang. In all probability, the Chi-yin of Han may have been the Chi-yin of Chou. Thus, by resorting to landmarks we can locate Chi-yin and other mints whose names, though not to be found in ancient literature, have a geographical origin.

In connection with the identification of mint names mention should be made of the practice among Chinese numismatists of regarding some single character legends on ancient coins as abbreviations for two character mint names. For instance, *mu* has been considered an abbreviation for *Mu-mên*, *yang* for *Kao-yang*, *li* for *Kung-li*, *kung* for *San-kung*, etc. It is true that a mint name can be abbreviated for lack of space. The abbreviation of "Chin-yang" as "Chin" on a Small Knife is an example. It, however, can be proved, while those mentioned above cannot. Unless a claim of abbreviation can be proved, it must not be accepted without reserve.

²⁸ See *Chu-shu chi-nien* 竹書紀年 (Wang Kuo-wei 王國維 (1877-1927), *Ku-pên chu-shu chi-nien chi-chiao* in *Wang-chung-ch'io-kung i-shu*, second series, p. 16b.). The town belonged to the state of Liang (Wei 魏) and was walled in 341 B.C.

II. THE DEVELOPMENT OF COMMERCE IN ANCIENT CHINA*

I. THE SHANG AND CHOU PERIODS

A brief survey of the development of commerce in ancient China seems necessary to provide a general background for our discussion of the origin and evolution of Chinese coinage, for there are no works, either in Chinese or other languages, which can be recommended for reference on this topic.

According to an old myth, markets were established in prehistoric China by a legendary hero, Shên-nung. It is idle speculation to consider the possibility of commerce at such a remote time, since its significance in the general economy could not have been any greater than that of barter trade among present day primitive peoples. It will be more profitable to study the economic conditions under the Shang dynasty, for which period there is a fair amount of archaeological devience.

* A few of the works quoted in this and other sections have been translated into English and French. The *Shang-shu* has been translated by Legge and Karlgren under the titles of *Shoo King (Chinese Classics III)* and "Glosses of the Book of Documents" (BMFEA No. 20) respectively. The *Shih ching (Mao Shih)* has been translated by Legge, Waley and Karlgren under the titles of *She King (Chinese Classics IV)*, *Book of Songs* (incomplete), and "Book of Odes" (BMFEA, Nos. 16 and 17). The *Lun-yü*, the *Mêng-tzû*, the *Tso chuan*, and the *Li chi* have been translated by Legge under the titles *Confucian Annalects*, *Works of Mencius*, *The Ch'un ts'eu with the Tso chuen (Chinese Classics I, II, V)*, and *Li Kí (Sacred Book of China, IV and V)*. The first forty-seven chapters of the *Shih-chi* have been translated by Chavannes under the title of *Les Mémoires historiques des Se-ma Ts'ien*. Portions of Chapter XXX and CXXIX of this work and parts of *Han shu* XXIV have been translated by R. C. Blue in *Harvard Journal of Asiatic Studies* II. Part of the *Hsün-tzû* has been translated by Dubs under the title of *Works of Hsüntze*, and part of the *Mo-tzû* has been translated by Yi-pao Mei under the title of *The Ethical and Political Works of Motze*. The *Yen t'ieh lun* has been translated by Gale under the title of *The Discourses on Salt and Iron*.

Some scholars have asserted that the Shang economy was based either on cattle-breeding or on a combination of cattle-breeding and rudimentary agriculture. Others would have us believe that the Shang people lived in an even more primitive state. However, study of oracle bone inscriptions has proved rather the contrary.¹ By conquest and colonization the Shang had built up a large empire. During the last two hundred and fifty years of their history, which ends in 1122 B. C. according to the traditional chronology, their territory extended to the sea in the east, to central Shensi in the west, to southern Hopeh in the north, and to the banks of the Huai River in the south.² The people of this empire led a life which was predominantly agricultural.³ Recently a Chinese scholar suggested the possibility that ploughs

¹ This point is also well illustrated by the change of opinion in the works of Kuo Mo-jo 郭沫若, one of the leading authorities on the institutional history of the Shang dynasty. In his *Chung-kuo ku-tai shé-hui yen-chiu*, published in 1930, the author categorically declares, "There is no doubt that the Yin (Shang) dynasty was a period during which cattle-breeding was most flourishing" (p. 245), and "Although agriculture had been discovered, it was not fully developed" (p. 254). But in his *Shih p'i-p'an shu*, published in 1945, he rejects his former opinion and declares that during the Shang dynasty "agriculture had actually become predominant" (p. 13).

² The boundaries of the Shang kingdom can be traced from the locations of its vassal states and of the countries it attacked and conquered. The names of these states and countries are found in inscriptions on oracle bones discovered at Yin-hsü, the site of the last Shang capital. See Tung Tso-pin 董作賓, *Yin li p'u* (calendar of Yin), 1945, Part II, IX, 37b-40b and 61a-63a; Hu Hou-hsüan 胡厚宣, "Pu-tz'ü chung so-chien chih Yin-tai nung-yeh" (Agriculture of the Yin dynasty as seen in the inscriptions on the oracle bones), *Chia-ku-hsüeh Shang-shih lun-ts'ung*, Second Series, 1945, 31a-47a; and Ch'ên Mêng-chia 陳夢家 "Shang-tai ti-li hsiao-chi" (A note on the geography of the Shang dynasty), *Yü-kung* 禹貢 (Chinese historical geography) VII (1937), Nos. 6-7, 101-108. In 1935 Prof. Fu Ssü-nien 傅斯年 published his essay, "I Hsia tung hsi shuo" (*Ch'ing-chu Ts'ai Yüan-p'ei hsien-shêng liu-shih-wu-sui lun-wên-chi*, 1093-1134), in which he says that at the peak of its power the eastern boundary of the Shang empire extended to the "east of the sea" (meaning part of Korea) in the east, to the "south of the Ch'i mountains" in central Shensi in the west, and to the valley of the Huai river in the southeast. In other words, the territory of Shang covered present Hopei, Shantung, Northern Kiangsu, Northern Anhui, Honan, Southern Shensi, and Eastern Shensi. His study is based entirely on literary sources, and, except for his claim on the northeastern boundary of Shang, which has not been otherwise proved, is confirmed by studies made of oracle bone inscriptions.

³ Hu Hou-hsüan, *ibid.*

pulled by oxen were used to till the fields and that bronze plough-shares were known.⁴ These ideas are challenging, even though there is no positive evidence to prove them.

In his campaign against the "Kuei-fang" state, northwest of the Shang kingdom in modern Shansi province, King Wu-ting called to arms 23,000 of his subjects in a period of three months.⁵ In one of his expeditions against the Ch'iang people in the west, he conscripted 10,000 on a single day together with 3000 more from a vassal state.⁶ Conscriptions on such a scale could not have been possible unless there had been a fairly large population, and the existence of a large population presupposes a developed economic production, at least in agriculture.

In handicrafts the Shang people achieved exceptional skill and great delicacy of aesthetic taste, as is widely demonstrated in their beautiful bronzes. Their skill in casting finds no match in later periods of Chinese history.⁷ The excellence of their workmanship has caused Creel to claim that it can barely be surpassed by today's metal worker with modern science and technology at his command,⁸ and that it has seldom been attained "anywhere in human history."⁹ Creel's opinions

⁴ Hu Hou-hsüan, *op. cit.* 80b—81a.

⁵ Tung Tso-pin, *op. cit.* Part II, IX, 38a. This was compiled by Prof. Tung according to his reconstructed Shang (Yin) calendar. Its final validity depends on that of his calendar.

⁶ Tung Tso-pin, *op. cit.* 39a and 40b. The bone inscription quoted by Tung Tso-pin is no. 310 in *The Couling-Chalfant Collection* by F. H. Chalfant, Shanghai, 1935.

⁷ See T'ang Lan 唐蘭, "Chung-kuo ku-tai mei-shu yü t'ung-ch'i" (Art and the Bronzes of Ancient China), *Chung-kuo i-shu lun-ts'ung* (Essays on Chinese Art), ed. by T'êng Ku 滕固, Ch'ang-sha, 1938, 111—113; Hsü Chung-shu 徐中舒, "Kuan-yü t'ung-ch'i chih i-shu" (On the Art of the Bronzes), *op. cit.* 125—137; and Hu Hou-hsüan, "Chung-yang-yen-chiu-yüan Yin-hsü ch'u-t'u chan-p'in tsan-kuan chi" (A Note on the Exhibit of the Objects Recovered at the Yin Ruins by Academia Sinica), *op. cit.* 157—167.

⁸ Creel, *Birth of China*, New York, 1937, 112.

⁹ Creel, *op. cit.* 124. In his *Studies in Early Chinese Culture* (1937) 233, Creel remarks, "Chinese bronze vessels are equal to the finest objects of the sort ever produced anywhere by man. Shang bronze vessels, as a group, are probably the finest of Chinese bronzes. Among the Shang bronzes excavated by the National Research Institute in 1934 and 1935 are complicated vessels which show a genius of design and a complete mastery of technique such as to take the breath of a hardened connoisseur."

may be accented with enthusiasm, but they testify to the high quality of the products of Shang craftsmen. Such a degree of technical accomplishment could have been attained only through specialization, which in turn, could result only from division of labor. The presence of these two factors, specialization and division of labor, precludes the possibility that each family unit was economically self-sufficient. It obviously points to the existence of an economy based, at least partly, on exchange.

The economy of the state as a whole showed a similar dependence on products of other regions. The basic metals, copper and tin, which were used in the manufacture of weapons, sacrificial vessels, and many other utensils, were not to be found within the boundaries of the kingdom. They had to be obtained from the south, in and beyond the Yangtze Valley.¹⁰ The same was true of gold, silver and cowrie shells,¹¹ which last were used both for ornaments and as media of exchange. Their red pigment, known as cinnabar, came from Shu (modern western Szechuan) and their jade was imported from western regions far beyond the Shang borders.¹² Most of the tortoise shells,

¹⁰ The "Yü-kung" in the *Shang-shu* states that Yang Chou (in the Yangtze Valley) produced "three kinds of metal," said to be gold, silver and copper. Ssü-ma Ch'ien 司馬遷 states that gold, tin and lead were produced in Chiangnan (south of the Yangtze River) and copper was produced in the region of Wu (lower stream of the river). *Shih-chi*, *Po-na-pên* ed. CXXIX, 1b and 11a. W. Yetts believes that copper was once produced in the interior of ancient China. Local tradition says that long ago copper and tin as well as other metals were mined some forty *li* northwest of An-yang city (in Honan) from the Tung Shan or Copper Hills. Two other place names, Tung Shan Chên and Nan Tung-yeh (Southern Copper Foundry), testify to the tradition (*An-yang: A Retrospect*, The China Society, London, 1942, 25. Prof. L. C. Goodrich kindly furnished this information).

¹¹ For gold and silver see the above note. The *Kuan-trü* states that gold came from the valleys of the Ju and the Han rivers. *Ssü-pu pei-yao* ed., XXIII, 3a. The Han River was a branch of the Yangtze. The cowrie shells which are discovered in large numbers at Yin-hsü are *Cypraea moneta* and *C. annulus*. They may have come from the Ryukyus, the Malay Peninsula, the Tzord Banks, or as far as the coast along the Indian Ocean. See pp. 55—56 and 66—69 for more details.

¹² In the excavation of the remains at Yin-hsü in An-yang there have been found a number of inscribed oracle bones painted with red and black pigments. The red pigment has been identified as raw cinnabar through chemical analysis by Professors

which were highly prized and served for divination, were of non-local origin; some of the larger specimens may have come from as far away as Malaya.¹³

It is very likely that the Shang kings obtained a good part of these imported products as tribute from southern states subject to them, or as booty. As the amount obtainable from such sources could not have satisfied the demands of both the court and the people, a certain proportion of the products must have been acquired through exchange.

The mutual dependence of the various regions within the kingdom was even more evident.¹⁴ Take salt for example. There were probably

Beneditti-Pichler and Gettens (see Dr. R. S. Britton, *Fifty Shang Inscriptions*, 1940, 7). Throughout ancient China cinnabar was the chief material used for red paint, as witnessed by the statement of Li Ssü (d. 208 B. C.) in his memorial to the king of Ch'in in 237 B. C. (*Shih-chi*, LXXXVII, 4b). At a somewhat later date it became associated with Taoist magic. Cinnabar is produced in both Szechuan and Hunan, but Szechuan, anciently known as Shu, was the producing district in Chinese antiquity.

¹³ Tortoise shells which the Shang people used for divination and which they used in large quantities were not produced within the Shang territory; they came from the Yangtze valley and the farther south (See Hu Hou-hsüan, "Yin-tai pu-kuei chih lai-yüan" or "The Origin of the Divination Tortoise Shells of the Yin Dynasty," *Chia-ku-hsüeh Shang-shih lun-ts'ung* or "Essays on the History of the Yin (Shang) Dynasty based on the Study of the Oracle Bones," first series, 1944, Vol. 4, 1 ff.) Prof. Tung Tso-pin quotes Wu Hsien-wên to the effect that the large tortoise shell of the Wu-ting period discovered at the old remains of the Shang capital resembles the species found today in the Malay Peninsula ("Tsai-t'an Yin-tai ch'i-hou," or "Again on the Weather during the Yin dynasty," reprint from the *Studia Serica*, p. 16, and Lien-shêng Yang, "Ten Examples of Early Tortoise-shell Inscriptions," *Harvard Jour. of Asiatic Studies*, XI, 1948, 122.)

¹⁴ A general picture of the local products in ancient China can be gathered from the statements in the "Yü-kung," a section in the present text of the *Shang shu*, and from those in the "Huo-ch'ih chuan" (CXXIX) in the *Shih-chi*. The former was written during the Chan-kuo period and the latter was written about 100 B. C. Sun Yüan-chêng 孫媛貞 has selected various items from the above mentioned works and compiled a table showing the distribution of raw materials and the products of industry in different regions of ancient China, *Yü-kung*, I (1934), No. 3, 26—38. The local products recorded in the *Shih-chi* are quoted in the text below. Those recorded in the "Yü-kung" are roughly salt, lacquer, embroidery, silk, the *ch'ih* linen from the east; lumber from tall trees, gold, silver, copper, ivory, hides, feathers, big tortoise shells, pearls, and oranges from the south; iron and silver from the southwest; and various jades from the west.

only two sources for this commodity. One was lake salt from present southwestern Shansi and the other sea salt from the east coast. At the present time there are no other areas within the limits of the Shang dominion which produce salt in any quantity, and it is probable that there was none in ancient times. In addition to salt there were no doubt other necessities of daily life which were specialties of particular regions also.

Due to lack of archaeological or literary evidence we are ignorant of the extent of exchange in this early period. We can, though, conclude with confidence that commerce had reached an active stage. Since Han times the word *shang* has been used to designate "trade." The explanation of Han scholars that *shang* (i. e., tradesmen) refers to traders who travel long distances is a rationalized interpretation of the word rather than an exposition of its original meaning. Recent research has shown that the character "shang" was used in ancient China only to denote the dynasty, the people, or their capital. Hence, Hsü Chung-shu identifies the term *shang-jên* in the sense of "tradesmen" with *shang-jên* meaning "people of Shang."¹⁵ In his opinion, after their conquest by the Chou, the Shang people found themselves relegated to an inferior position, which circumstance forced many of them to take up trading, an occupation deemed degrading by the upper classes. Hsü draws a parallel between the Shang people and the Jews, both being peoples forced by circumstance into trade as their special profession. While he may be correct in this conjecture, it is equally possible and even more plausible that the identification by the Chou of Shang natives with tradesmen took place a few centuries

¹⁵ Hsü Chung-shu, "Ts'ung ku-shu-chung t'ui-ts'ê chih Yin Chou min-tsu" (A tentative study of the peoples of the Yin and the Chou based on the ancient literature), *Kuo-hsüeh Lun-ts'ung* 國學論叢 I (1927), 109—113. The literary datum on which Hsü Chung-shu bases his identification of merchants with the Shang (Yin) people is in *Tso chuan*, *Ssü-pu pei-yao* ed., XLVII, 8b—10b. In 1937 Ojima Sukema 小島祐馬, a Japanese scholar, published an article on the origin of the name, *shang-jên*. Using the same document, he identifies the first Chinese merchants with the conquered Shang people. This article forms part of his recent book entitled *Kodai Shina kenkyû*, Tokyo, 1944, 138—154.

earlier when the Shang, at the peak of their prosperity, came to the more backward Chou to exchange their own products for those of the tribes of the west. Assuming this as true, it would be only natural for the Chou to identify trading as an outstanding characteristic of the Shang.¹⁶ If this interpretation is plausible, we may venture that a group of professional merchants existed in the Shang state whose business extended well beyond their own borders.

That the Shang people had engaged in widespread trade can be inferred from a statement in "Chiu kao," a decree issued by King Wu,¹⁷ the founder of the Chou dynasty, ordering the vanquished Shang of the "Mei State" to cease their overindulgence in wine and to devote themselves to farming and trade. The decree says, "You should, working hard, take your carriages and oxen and pursue trade over long distances so that you can filially nurture your fathers and mothers."¹⁸

A statement of Confucius indicates that the Chou people, who possessed a cruder culture, absorbed the Shang civilization after its conquest.¹⁹ This is corroborated by both archaeological and literary evidence. In the economic sphere, likewise, they must have inherited the pattern of the people they conquered. Unfortunately, with the exception of a few inscriptions on early Chou bronzes, we have practically no information on the economic life of the first two hundred years after the change of dynasties.

For the later Chou period, reference to trade is made in the Ode of Chan-yang which has been preserved in the *Shih ching* or *Book of*

¹⁶ Kuo Mo-jo attributes the origin of the twofold meanings of the term *shang-jên* as "Shang people" and "tradesmen" to the possibility that the Shang people may have been the first traders (*Shih p'i-p'an shu*, 16.)

¹⁷ Some other scholars regard King Ch'êng, son of King Wu, as the one who issued the "Chiu kao." Which opinion is correct is not material, for King Ch'êng ascended to the throne in the seventh year after his father conquered the Shang nation, a date which is very close to the Shang period. The decree is contained in the *Shang-shu*, known in the West as the *Book of History* or the *Book of Documents*.

¹⁸ *Shang-shu*, *Ssü-pu pei-yao* ed., VIII, 6b.

¹⁹ Confucius says that the Chou people followed the *li* (institutions) of the Yin (Shang) dynasty. *Lun-yü*, *Ssü-pu pei-yao* ed., ii, 6a.

*Odes.*²⁰ This ode expresses grievances of the people against misconduct of government, interference in politics by women, and pursuit of trade by the nobility. A part of it runs:

Such things as trade yielding
three times (its capital),
A superior man should have
knowledge of.
A woman has nothing to do with
public affairs,
Yet she leaves her silkworms and weaving.²¹

This is a description of behavior contrary to the accepted norm. It was considered degrading for a nobleman to engage in trade, but obviously the temptation of three hundred per cent profit was hard to resist.

The woman referred to in the ode is said to have been Pao Ssü, first a court lady of King Yu (781—771 B. C.) who was made his queen when he ascended the throne. Through her influence, he is reported to have misruled his people and to have invited the Jung invasion which almost ended the Chou. If this identification is correct, the ode must have originated in the eighth century B. C.

²⁰ The *Shih ching* contains many odes originating in the 11th to 6th centuries B. C. Except for a limited number, the odes are songs of the people, and as such they reflect actual living conditions. (Karlgren takes exception to this interpretation. He believes that the odes are too elaborate to be products of farmers. See his "Glosses on the Kuo Feng Odes," *BMFEA* 14 (1942), 75. Prof. Goodrich kindly furnished this information).

²¹ *Shih ching*, Ssü-pu pei-yao ed., XVIII, 24b. Legge's translation of these lines (*Chinese Classics*, 1871, iv, Part 2, 561—2) reads:

As if in the three times cent. per cent. of traffic,
A superior man should have any knowledge of it;
So a woman who has nothing to do with public affairs,
Leaves her silk worms and weaving.

Karlgren's translation ("Book of Odes" *BMFEA*, No. 17, 1945, 86.) reads:

They are like those who sell at a triple profit; the noble man knows this, and (therefore) the women have no public service, they have to (rest) abide by their silk worm work and their weaving.

Legge's version is closer to the meaning of the Chinese text.

2. THE CH'UN-CH'IU PERIOD (770—481 B. C.)

In the early years of the eighth century B. C., Duke Huan (806—771 B. C.) of the State of Chêng entered into a sworn agreement with the merchants in his territory. Such an event presupposes that a flourishing trade had become important enough to elevate greatly the social position of the merchant class. An account of this agreement was made by Chêng Tzŭ-ch'an, a member of the Chêng ruling family and the most famous statesman of Chêng, to a high minister from the state of Chin in 526 B. C.²² According to Tzŭ-ch'an, when Duke Huan moved from the west to the east and established his state in what is now central Honan,²³ he concluded an agreement with the merchants who had helped him develop this new territory. Under the agreement the merchants promised not to rebel against the state, and Duke Huan pledged himself not to compel the merchants to sell, nor to seize their merchandise by force, nor to inquire into their capital or profits. This account indicates that, as early as the end of the ninth and beginning of the eighth century B. C., the importance of merchants in Chêng had won the recognition of the state and had secured for them an official protection not previously enjoyed.

The growing importance of commerce was even more manifest in the state of Ch'i, where the government itself engaged in trade. When Duke Huan (not to be confused with the ruler of Chêng with the same title) assumed its rule in 685 B. C., Ch'i was a very small state on the lower stream of the Chi River, which formed its western boundary. Its eastern boundary was less than ten miles from its capital, Lin-tzŭ (also a modern city).²⁴ However, the state was situated on the coast, where fish abounded and where salt could be easily produced from the sea. Kuan Chung (d. 645 B. C.), the Duke's chief minister, realized the potentialities of these natural economic resources. He formulated and put into practice his policy of "creating profits through [the

²² *Tso chuan*, *Ssŭ-pu pei-yao* ed., XLVII, 8b—10.

²³ Originally the territory of the state of Chêng was in the area below the Wei River in eastern Shensi.

²⁴ *Kuo-yŭ* (Stories of the States), *Ssŭ-pu pei-yao* ed., VII, 9a.

production and sale of] fish and salt.”²⁵ In co-ordination with this policy he devised a means of market control through regulation of supply and demand.²⁶ By putting these measures into effect Duke Huan in a short time raised the “tiny Ch’i” to a position of hegemony within the Chou empire. As a reward to Kuan Chung, Duke Huan granted to him the revenue from taxes on trade.²⁷ His benefit from this revenue made Kuan Chung, the minister of a feudal lord, “wealthier than the ruler of a state.”²⁸

The salt and fishing industries from which Ch’i of the seventh century B. C. derived so much power had, of course, developed long before this date. Likewise, there must have been an earlier export trade in fish and salt already developed which Duke Huan and Kuan Chung promoted and expanded with such great success. Evidence for this is found in the early history of Ch’i as related by Ssü-ma Ch’ien in his *Shih-chi*.²⁹ The historian states that when T’ai-kung Wang, the

²⁵ *Shih-chi*, XXXII, 8b, and XXX, 2ob.

²⁶ *Ibid.* and *op. cit.*, CXXIX, 2b.

²⁷ The term for the market tax is *san-kuei* 三歸. When Confucius was asked whether Kuan Chung was frugal, he said he was not because Kuan Chung “had the *san-kuei*.” (*Lun-yü*, III, 5b). In the *Han-wei-tsu* it is said after Kuan Chung became the chief minister of Duke Huan of Ch’i, the latter bestowed upon him the *san-kuei* in order to enrich him. (1875, XII, 11a). As the term was obscure to later scholars, it has been interpreted as meaning “the name of a terrace” or “wives from three different families.” Kuo Sung-t’ao 郭嵩燾 (1818—1891) rejects these explanations and suggests that it was a general term applied to market taxation, meaning thirty per cent of the profit. See his *Yang-chih shu-wu wen-chi* (A collection of writings of the Yang-chih Study), I, “Shih san-kuei” (Interpretation of *San-kuei*).

Kuo Sung-t’ao’s interpretation appears most satisfactory. The *san-kuei* grant to Kuan Chung as recorded by Liu Hsiang 劉向 (77—6 B. C.) is “one year’s tax from the market of the Ch’i state.” (*Shuo-yüan*, Ssü-pu pei-yao ed., VIII, 12a). The market from which Kuan Chung was to receive his revenue was probably that in the Ch’i capital.

²⁸ *Shih-chi*, CXXIX, 2b. In LXII, 3a, Ssü-ma Ch’ien gives a slightly different statement of Kuan Chung’s wealth. There he says, “Kuan Chung was so wealthy that he equalled the house of the ruler of state (of Ch’i).”

²⁹ The story quoted below in the text concerns the enfeudation of Lü Wang 呂望 or Tai-kung Wang (the first ancestor Wang) with Ying-ch’iu 營丘 a town in the ancient Ch’i state, as his fief. It tells how Lü Wang established his state in Ch’i and

first ancestor of the house of Ch'i, was enfeoffed and granted Ying-ch'iu, a town in Ch'i, he found that its soil was alkaline and its population small. Therefore, he "promoted its silk textile industry, perfected its skillful handicrafts, and opened up [production and trade in] fish and salt."³⁰ As a result, "both people and goods came to it [the town of Ch'i]. They arrived carrying babies on their backs and converged on it like the spokes of a wheel. Consequently, Ch'i provided the world with hats, sashes, clothes and slippers."³¹ Although the enfeudation of T'ai-kung Wang with Ch'i has been proven untrue, the remainder of the account may contain elements of truth.³² If so, Ch'i must have been an industrial center in ancient China for a long period with exports not only of sea products but also of handicrafts, particularly silks, which are mentioned by Ssü-ma Ch'ien elsewhere.³³ Its immedi-

developed its economic resources. The story does not correspond with the historical facts. As has been ably disproved by Prof. Fu Ssü-nien, at the time when Lü Wang was supposed to have been made the feudal lord of Ch'i, the territory which later came to be known as Ch'i was still in the hands of the Shang people or their vassals. The very name of the beneficiary, Lü Wang or Wang of Lü, indicates strongly that the fief of Wang was Lü, not Ch'i. Even a generation later, his son Chi 伋 was still called Lü Chi or Chi of Lü. Prof. Fu's arguments are contained in his article "On Ta-Tung and Hsiao-Tung," *Bulletin of the National Research Institute of History and Philology*, Academia Sinica, II (1930), 101—109. What immediately concerns us here is not the authenticity of the enfeudation of Lü Wang in Ch'i but the possibility of the early development of industry and commerce in the region of Ch'i, which is the main point of the story.

³⁰ *Shih-chi*, CXXIX, 2b.

³¹ *Ibid.* This statement and the one immediately preceding are significantly absent in *Shih-chi*, XXX, 20b, where the historical development of industry and commerce is related by Ssü-ma Ch'ien and in LXII where the history of the state of Ch'i is treated by the same historian. In neither place is the first ancestor of the house of Ch'i mentioned to be the first developer of the economy of Ch'i. This is another point which can be used to support Prof. Fu in his argument disputing Lü Wang as the first ruler of the feudatory Ch'i. The story about Tai-kung Wang seems to have some historical elements with its features borrowed from the story about Duke Huan and Kuan Chung.

³² See note 29.

³³ Such as silk fabrics recorded in *Shih-chi*, CXXIX, 10a. Li Ssü speaks of the fine *hao* of O 阿 繡 as one of the luxurious industrial goods imported into Ch'in in his memorial to the king of Ch'in quoted above. O was a town in Ch'i, located northwest of the modern city of Tung-o in western Shantung.

ate markets were the territories of Liang (Wei), Chao,³⁴ Sung and Wei, according to *Kuan-tzŭ*.³⁵ Corroboration of the great demand for the sea produce of Ch'i and of its eastern neighbor, Lai, is found in the gratitude of consumer states to Duke Huan when he abolished custom tolls and promoted direct purchases from Lai.³⁶

Another fact which attests to early development of trade in Ch'i is the mention of "big merchants and hoarders"³⁷ in conjunction with Kuan Chung's program for maintaining equilibrium of the market. Kuan Chung proposed to regulate trade and prevent market manipulation by storing ample stocks of grain in times of plenty for release in times of scarcity.³⁸ His plan was called "well conceived and well adapted to problems of scarcity and oversupply."³⁹ The regulation of the market reveals two significant points: trade played an essential part in Ch'i's economy and "big merchants and hoarders" had appeared who manipulated the market and "forcefully exploited the people."⁴⁰ Even if we grant a measure of discount to the account of

³⁴ Neither Liang (Wei) nor Chao, the state mentioned immediately after Liang, existed during the Ch'un-ch'iu period which we are discussing. These states came into being only after 431 B. C. through a split of the territory of Chin. The creation of these states received official sanction in 403 B. C. when the king of Chou granted the rulers of the two de facto states the status of the *hou* or marquis. We use the names of the two states instead of Chin to preserve the original wording of the passage in *Kuan-tzŭ*, which is here referred to.

In the Chou period, there were two states whose name was pronounced Wei. One, written 衛, existed throughout the whole Chou period, and the other, written 魏, was officially created in 403 B. C. Although the names of these two states cannot be confused in Chinese script, they can be easily in English. In order to avoid the confusion, we will refer to the state created in 403 B. C. as Liang, which was the name of its capital. In the literature of the Chan-kuo period this state is frequently so designated.

³⁵ *Kuan-tzŭ*, XXIII, 15b.

³⁶ *Kuo-yŭ*, VI, 10b.

³⁷ *Op. cit.*, XXII, 6b. The statement is also quoted in *Han shu*, i. e. *Ch'ien Han shu* 1641 ed., XXIV, Part 2, 1b.

³⁸ *Ibid.*

³⁹ *Shih-chi*, XXX, 20b.

⁴⁰ *Kuan-tzŭ*, XXII, 6b.

Kuan-tzŭ,⁴¹ the fact remains that trade had developed to an advanced stage in the Ch'i economy.⁴²

We have evidence that by the middle of the seventh century B. C., and possibly earlier, economic needs had transcended state boundaries and that political divisions proved a hindrance to normal exchange. In 651 B. C. a conference of feudal lords convened at K'uei-ch'iu where Duke Huan of Ch'i demanded that the participants henceforth "shall not hoard grain" and "shall not curtail (the export of) raw materials."⁴³ Because of its alkaline soil Ch'i was unable to support its entire population and the large army it required to maintain its hegemony. It is also probable that its handicraft industries needed raw materials from other areas. These were the reasons, no doubt, for the demands of the Duke. Another treaty drawn up in 562 B. C. practically repeats the provisions of the earlier one. In it the agreeing parties promise "not to hoard grain in bad years" and "not to block (the flow) of products."⁴⁴

An early development of industry and commerce can be traced also in the state of Wei. In 658 B. C., the year after the state was invaded by the Ti people, Duke Wên moved his capital eastwards to Ch'u-ch'iu on the northern border of the present Honan province. There he pursued a program of reconstruction by "promoting commerce and favoring industry." As a result, the population of Wei increased threefold in a period of twenty-three years.⁴⁵ More than a century later, when Confucius visited the state he was greatly impressed with its flourishing condition.⁴⁶

⁴¹ The *Kuan-tzŭ*, attributed to Kuan Chung, is a work of the Ch'an-kuo period (403 — 221 B. C.) which contains many later interpolations. However badly interpolated, it does contain valid Ch'i traditions. The chapter here quoted is mentioned by Ssŭ-ma Ch'ien as also a part of the work as circulated at his time (145 — 86 B. C. ?). Moreover, the wording of Pan Ku's (32 — 92) quotation (XXIV, Part 2, 1a — 1b) of the portion relating to market regulation is identical with the present text.

⁴² Huan K'uan 桓寬 of the later Han dynasty (25 — 220) speaks of the Ch'i commercial caravan consisting of three thousand carriages. *Yen Pieh lun*, Ssŭ-pu pei-yao ed., II, 6a.

⁴³ *Mêng-tzŭ*, Ssŭ-pu pei-yao ed., XII, 9b; *Tso chuan*, XIII, 4b — 5a.

⁴⁴ *Tso chuan* XXXI, 10.

⁴⁵ *Op. cit.*, XI, 8b.

⁴⁶ *Lun-yŭ*, XII, 3a — 3b.

Geographically speaking, Wei was situated at that time in the center of ancient China, in the plain at the middle of the old Yellow River valley, and on the *Wu-tao* (cross-roads).⁴⁷ During the Ch'un-ch'iu period, Wei, capital of the state, was one of the three cities renowned for their riches, the other two being Lin-tzŭ, capital of Ch'i, and T'ao. It has on several occasions been mentioned together with T'ao as a place abounding in wealth.⁴⁸

Across the northern and western borders of Wei we enter the territory of the state of Chin. Although it lagged behind Ch'i and Wei, there are signs of an early development of commerce there. Duke Wên (636—628 B. C.) of Chin, the first of its rulers to bring the state to a position of power, realized the benefits of trade and promoted it for the benefit of both the state and its people. On assumption of rule in 636 B. C., he "reduced duties at the passes, flattened the roads, opened up commerce, and lessened the burdens of the peasants . . . in order to better the life of the people."⁴⁹ As a result, in the middle of the sixth century B. C. we find that "the rich merchants of Chiang (capital of Chin) . . . could decorate their carriages with gold and jade and have their clothing embroidered with flowery patterns."⁵⁰ "They could," furthermore, "(befriend and) distribute gifts to the feudal lords."⁵¹ These words of Shu-hsiang, the grand tutor, to Han Hsüan-tzŭ, chief minister of state, give a good picture of the amount of wealth that merchants had accumulated in this state. From the degree of their prosperity we can easily infer the state of development of trade. As an ancient folk saying put it, "The longer the sleeves, the better the dancer dances; the wealthier the merchant, the more successfully he trades."⁵²

⁴⁷ The interpretation of *wu-tao* 午道 as meaning "cross-road" is advanced by Méng Wên-t'ung 蒙文通 in his article "Lun ku shui-tao yü chiao-t'ung," (A Discussion of Ancient Rivers and Communication), *Yü-kung* (Chinese Historical Geography), II (1935), No. 3, p. 4.

⁴⁸ For more information on the commercial centers of T'ao and Wei see below pp. 46—47.

⁴⁹ *Kuo-yü*, X, 13b.

⁵⁰ *Kuo-yü*, XIV, 11a.

⁵¹ *Ibid.*

⁵² *Han-pei-tzŭ*, 1875, XIX, 10a.

As a result of increased development in the seventh century B. C., trade was recognized to be as essential as agriculture and industry. A simultaneous and balanced development of the three became a criterion by which the strength of a state was judged. In 597 B. C., when Chin was preparing an attack on Ch'u, Sui-wu-tzŭ dissuaded Duke Li of Chin from acting, for as he observed, in Ch'u "neither the merchants, the farmers, nor the artisans have shown any relaxation in production."⁵³ In 564, when Ch'u consented to join forces with Ch'in against Chin, Tzŭ-nang, a Ch'u minister, opposed the move, giving practically the identical reason.⁵⁴ When, in 516 B. C., Duke Ching of Ch'i was concerned about the strength of his state, his minister Yen-tzŭ (named Ying), suggested that *li* be put into practice. Along with a few other administrative measures his *li* (proper principles for government) provided that "farmers do not shift their occupations, artisans and merchants do not change their professions."⁵⁵

Why did the ancient Chinese rulers consider the balance between trade, agriculture, and industry important? The *Chou shu* (Book of Chou) says, "If the farmers do not produce, there will be a shortage of food. If foresters do not produce, some works will not be accomplished. If the merchants do not produce, the sources of wealth will be cut."⁵⁶ Ssŭ-ma Ch'ien remarks, "From the farmers food is obtained, by the foresters the materials are produced by which the artisans' goods are manufactured, by the merchants they are circulated."⁵⁷ "These four," he continues, "are the sources for clothes and food for the people. If the sources are great, abundance will result; if the sources are small, scarcity will result. They enrich the state above, and enrich the people below."⁵⁸

One way in which the state reaped direct benefit from commerce was through collection of taxes on market transactions and of customs duties at passes (*kuan*). To supervise markets and probably to collect taxes therein special officials were appointed. They were called *ku-chêng* (director of trade) in Lu,⁵⁹ *ch'u-shih* (market super-

⁵³ *Tso chuan*, XXIII, 3a.

⁵⁴ *Tso chuan*, XXX, 15a.

⁵⁵ *Tso chuan*, LII, 7a.

⁵⁶ *Shih-chi*, CXXIX, 2a.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ *Tso chuan*, LI, 12b.

visor) in Chêng,⁶⁰ *shih-ling* (market prefect) and *shih-yüan* (assistant to market prefect) in Ch'i,⁶¹ *ssü-shih* (director of the market) and *ku-shih* (trade supervisor) in the *Chou li*.⁶²

Frontier passes (*kuan*) as strategic points through which invaders might enter were originally the sites of military outposts. It was only after the volume of interstate trade had become substantial that they became also collection points of customs duties. The *Kuan-tzũ* defines a pass as "a feudal lord's strategic road and the door for outside wealth."⁶³ As soon as feudal rulers realized the large amount of revenue they were reaping from duty collections at frontier passes, greed inevitably led them to set up *kuan* for collection of duties within their interiors. Some states like Ch'i extended duty collections to points close to the walls of their capitals. In 522 B. C. Yen-tzũ stated that "the passes [customs stations] close to the capital [of Ch'i] tyrannically collect duties for personal profit,"⁶⁴ that is, of the prince of Ch'i. One hundred and three years before (in 625 B. C.) the state of Lu had set up six additional such customs offices. Confucius referred to their establishment as one of the three inhuman acts performed by the Lu minister, Tsang Wên-chung.⁶⁵ The phraseology of Confucius gives the impression that these customs stations were in the interior. The whole practice of customs collections was bitterly denounced by Mencius: "In ancient times the erection of customs stations was directed against tyranny [meaning aggression]; at the present [fourth century B. C.] the erection of customs stations is for exercising tyranny."⁶⁶

⁶⁰ *Tso chuan*, XXXII, 3a.

⁶¹ T'ien Tan 田單, the famous general of Ch'i is said to have previously held the position of the *shih-yüan* 市掾 of Lin-tzũ. *Shih-chi*, LXXXII, 1a. In the ancient Chinese official hierarchy *yüan* was assistant to the *ling* (prefect) or *chang* (chief) of an office. Since there was the position of *yüan* there must also have been the position of *ling* or *chang*.

⁶² *Chou li*, *Ssü-pu pei-yao* ed., XIV, 7b and XV, 2b. (*Hsün-tzũ*, 1876, XV, 8b, has also *ku-shih* but it is not certain whether this is a title of an official or a general term to mean "teacher of merchants.").

⁶³ *Kuan-tzũ*, IX, 15b.

⁶⁴ *Tso chuan*, XLIX, 7b.

⁶⁵ *Tso chuan*, XVIII, 8a.

⁶⁶ *Mêng-tzũ*, XIV, 3a—3b.

The above data concerning the establishment of stations for collection of duties throw considerable light on the development of commerce. The lack of concrete figures or even general statements regarding the amount of revenue collected at a customs station makes it impossible to estimate the volume of trade. A portion of the *Tso chuan*, however, does enable us to gauge its value. The author of the *Tso chuan* relates that the Ti people invaded Sung during the reign of Duke Wu (766—749 B. C.). In the battle with the invaders all the Sung generals perished except Erh-pan, whose chariot led the defense's charge. To reward him, "the Duke granted a customs station to Erh-pan as his fief and let him live on its collections."⁶⁷ That the collection of duties was granted as a reward or fief to a victorious warrior indicates that this source of revenue had become sizeable and fairly regular. Even more significant is the fact that Erh-pan's grant took place in the middle of the eighth century, almost a hundred years before the commercial policies of Duke Huan of Ch'i and Duke Wên of Wei were adopted.

The development of trade and the large profits accruing to those engaged in it would naturally bring merchants out of relative obscurity into activity in public affairs. The names of a few merchants before the fifth century B. C. are mentioned in extant historical literature in connection with important events. Primary among these are the names of Pao Shu-ya and Kuan Chung, whom we have already mentioned as the advisor of Duke Huan of Ch'i.

Before his rise to prominence, or in his own words "when I was in a difficult situation," Kuan Chung had been a merchant, originally from Ying-shang⁶⁸ (in what is now Central Honan), trading in Nan-yang,⁶⁹ a large city in the southwestern part of the province. For sometime he had been a business associate of Pao Shu-ya,⁷⁰ who likewise rose to high position in the ruling circle of Ch'i. It was, in fact, Pao Shu-ya who recommended Kuan Chung to Duke Huan. Both

⁶⁷ *Tso chuan*, XIX, Part 2, 2a.

⁶⁸ *Shih-chi*, LXII, 1b.

⁶⁹ *Lü-shih ch'un-ch'iu*, quoted by Ssü-ma Chêng 司馬貞, a T'ang commentator of the *Shih-chi* (LXII, 1a).

⁷⁰ *Shih-chi*, LXII, 1b.

Pao Shu-ya and Kuan Chung became high officials in the state. The latter was honored by Duke Huan with the title *chung-fu*⁷¹ and Confucius paid tribute to him for having saved the Chinese from conquest by barbarians.⁷²

Next we find the name of Hsüan Kao, a merchant of Chêng.⁷³ In 627 B. C., when driving his herds of cattle to the city of Chou to market them, Hsüan Kao met the armies of Ch'in marching eastward to make a surprise attack on his home state. Sensing the danger, he pretended he was an official emissary sent by Chêng to welcome and feast the invading troops. While entertaining them he secretly dispatched warning and thereby saved his state.⁷⁴

From Chêng there was another merchant, whose identity is unknown. In 568 B. C., an important general of Chin, Hsün Ying, was captured by the enemy in the course of a battle with the army of Ch'u. Partisans of the general asked a merchant, who had come to Ch'u on business, for help in an escape plot. The merchant agreed and worked out a plan for smuggling the general out among his merchandise. Although Hsün Ying was released before the plot was carried out, he was nonetheless so grateful that when the merchant came to Chin to trade he offered him special favors. Declining the general's generosity, the merchant went on to Ch'i in pursuance of his business.⁷⁵ Obviously this merchant must have been prominent and one with social connections among important personages in both Ch'u and Chin. To warrant such extensive travelling in Chêng, Ch'u, Chin and Ch'i, practically all over the then known Chinese world, his business must have been on a large scale.

Of all the big merchants of this period the most famous was Tuan-mu Ssü, a disciple of Confucius, better known as Tzû-kung. Tzû-kung, a native of Wei which had long prospered through trade, is said to

⁷¹ Meaning next to one's father in honor.

⁷² *Lun-yü*, XIV, 5b.

⁷³ *Lü-shih ch'un-ch'iu* records a partner of Hsüan Kao 弦高 by the name of Hsi Shih 奚施. 1875, XVI, 12a.

⁷⁴ *Tso chuan* XVII, 7b-8a. The story is slightly differently worded in *Shih-chi*, V, 14b-15a.

⁷⁵ *Tso chuan*, XXVI, 3b.

have been a master of market manipulation. "He hoarded merchandise or released it according to the prospects of making profit,"⁷⁶ and thereby acquired a great fortune. Although Confucius reproached him for his interest in trade and for his lack of it in studies, he praised his ability in commercial speculation.⁷⁷ Tzŭ-kung's wealth enabled him to travel from one princely court to another accompanied by a long retinue of horses and carriages laden with fine silks of which he made gifts to the feudal princes. Wherever he went, rulers accorded him the courteous treatment of an equal.⁷⁸ In the opinion of Ssŭ-ma Ch'ien, the great historian, it was Tzŭ-kung who "made the name of Confucius popular over the world."⁷⁹ Even though he may not have done so consciously, Tzŭ-kung, as both the favorite disciple of Confucius and a prominent merchant, must have publicized his teacher widely. Moreover, he was not only a business man renowned for his wealth, but was an influential politician as well. While a trader he served Lu and Wei in various official capacities.⁸⁰ His last years were spent in Ch'i, the state most famous for its industry and commerce.

Another personage reported to have come to Ch'i was the famous statesman Fan Li, who had aided the king of Yüeh (modern Chekiang) to conquer Wu (southern Kiangsu), to extend the state's territory to the borders of Lu and Ch'i, and thus to attain a political position on a par with the central states. This was in the first half of the fifth century B. C. According to the account, after Yüeh had attained its greatest power, Fan Li resigned, changed his name, went to Ch'i, and later established himself as a business man in T'ao, which city was regarded as the geographical center of the empire. Henceforth, Fan Li became known as T'ao Chu-kung (Old Gentleman Chu of T'ao). The fortune he made from trade profits and interest on money-lending became so great that he became a symbol of wealth⁸¹ and served as a model to Chinese businessmen from that day to the present. Though

⁷⁶ *Shih-chi*, LXVII, 12a.

⁷⁷ *Lun-yü*, XI, 4b.

⁷⁸ *Shih-chi*, CXXIX, 5a.

⁷⁹ *Ibid.*

⁸⁰ *Tso chuan*, LVIII, 4a; LIX, 2a; 12a. *Shih-chi*, CXXIX, 5a.

⁸¹ *Shih-chi*, CXXIX, 4b—5a.

the identification of Chu-Kung with Fan Li seems open to doubt⁸² the historical character of the Old Gentleman Chu remains.

Like the Old Gentleman Chu of T'ao, Po Kuei also achieved great success in trade and gained even greater fame. He was a native of Chou, an area which was highly commercialized. Ssü-ma Ch'ien says that he lived in the time of Marquis Wên (446—397 B. C.) of Wei, but some modern scholars believe he lived a century later.⁸³ According to Ssü-ma Ch'ien he "was very successful in predicting the trend of the time." Hoarding merchandise which would bring him large returns, he purchased when others dumped, and vice versa. "In grasping the advantages of the moment, he acted as ferocious animals and vultures do in falling on their prey."⁸⁴ He boasted that he conducted his business in the manner I Yin and Lü Shang (statesmen of an earlier time) laid out their administrative policies, Sun Pin and Wu Ch'i (famous military strategists) commanded their armies, and Shang Yang (a reformist statesman) executed his orders.⁸⁵

The above accounts of early Chinese merchants are not to be read as biographical notes only, for in them we find data upon which a clearer picture of early commerce in China can be reconstructed. Fragmentary as the information is, it all points to a considerable development of trade in this period. Let us summarize our findings. As far back as the early part of the eighth century B. C. the contribution of commerce to general economic life had won the attention of the ruling authorities. Around the middle of that century custom duties collections, at least in Sung, had reached considerable proportions. In the following century Ch'i and Wei successively pursued programs of commercial expansion. The lucrative profits of trade attracted many to take it up as an occupation even though it had been considered an ignoble one. Merchants travelled throughout the

⁸² See Ch'ien Mu 錢穆 *Hsien-Ch'in chu-trü hsi-nien k'ao-pien* (A Study of the Chronology of the Pre-Ch'in Philosophers), Shanghai, 1935, 101.

⁸³ *Shih-chi*, CXXIX, 5a. For the critical discussion on the life-time of Po Kuei see Ch'ien Mu, *op. cit.* 234—236.

⁸⁴ *Shih-chi*, CXXIX, 5a—5b.

⁸⁵ *Shih-chi*, CXXIX, 5b.

the world then known to the Chinese and amassed such fortunes that nobles accepted them as equals and appointed them to high administrative positions in their governments.

3. THE CHAN-KUO PERIOD

The Chan-kuo Period (403—221 B. C.) witnessed a further development of commerce. The civil wars regarded as characteristic of the period (Chan-kuo means “warring states”) in actuality surpassed very little those of earlier times in either frequency or destructiveness. They certainly do not appear to have hindered the growth of trade.

It is significant that the agrarianist Hsü Hsing, a contemporary of Mencius (390—305 B. C.), advanced a political philosophy which aimed to eradicate the evils of the day by making a farmer of everyone. It is said that he and his disciples cultivated fields themselves and lived extremely simple lives so as to set an example for their teachings. Mencius disapproved of both their theory and their practice of it. Encountering a follower of Hsü Hsing he questioned him and learned that the philosopher had been unable to maintain himself without acquiring clothes, hats, utensils and iron implements from other people. As Mencius puts it Hsü Hsing was engaged in a “busy and confused” [i. e., ‘complicated’] exchange with the hundred [i. e., ‘many’] artisans for the goods [he needs].”⁸⁶

Some of the things which Hsü Hsing needed could be purchased in the locality (both he and Mencius lived in the state of T’êng at the time), such as simple pottery utensils. Some others, such as iron for making tools, could not be so obtained. Artisans who manufactured iron tools had to secure their metal from other areas.⁸⁷ Many other

⁸⁶ *Mêng-tzu*, *Ssü-pu pei-yao* ed., V, 9a—11b.

⁸⁷ T’êng is not known as an iron producing area in either ancient or modern times. According to *Ssü-ma Ch’ien*, places where iron industry produced great fortunes in the Chan-kuo period were Chao including Han-tan, Lin-Ch’iung in Shu, Liang (Wei), Wan in Ch’u and Lu. For the iron smelter Kuo Tsung of Han-tan see *Shih-chi* CXXIX, 66; for the iron smelter of the Cho family of Chao and later of Lin-ch’iung in Shu, see *ibid.*, 17a; for the smelter of the Kung family of Liang and later of Wan in Ch’u, and

things were as necessary to life on an economically higher level as iron was to the ascetic. Timber, bamboo, *ku* barks for writing material, *lu* mountain hemp for making cloth, yak tails, jade and other precious stones from west of the mountains;⁸⁸ fish, salt, lacquer, silk, musical instruments and embroideries⁸⁹ from east of the mountains; wood of the *nan* (*Machilus nanmu*) and the *tzü* (*Lindera tzumu*), ginger, cinnamon trees, gold, tin, lead, cinnabar, rhinoceros (hide or horn), tortoise shells, pearls, ivory, and other hides from south of the Chiang (Yangtze River); horses, oxen, sheep, furs, sinews and horns from the north; and copper and iron from many other places⁹⁰ — “all these,” as Ssü-ma Ch’ien observes, “were what the people of the central kingdom⁹¹ enjoyed and the materials from which, according to the custom of the day, were made clothes, food and articles for nurturing the living and burying the dead.”⁹²

These commodities listed above are taken from the introduction of the section on merchants and manufactures in pre-Ch’in China in

also for the smelter family of Ping of Lu, see *ibid.*, 18a. As Ssü-ma Ch’ien mentions only iron manufacturers of great wealth, this does not preclude the existence of relatively small producers in still other districts.

⁸⁸ The Chinese term is *Shan-tung*, meaning “east of the mountains.” The mountains referred to here must be the range of T’ai-hang which spreads over the central region of ancient Chinese civilization on the border of modern Shansi and Honan Provinces. However, the term which was used obviously in a general sense should not be understood literally. As Wang Ming-shêng 王鳴盛 has pointed out, during the Chan-kuo period it denoted the regions east of the Han-ku Pass in western Honan, roughly east of the state of Ch’in. See his *Shih-ch’i-shih shang-ch’iao* (Discussions on the Seventeen Dynastic Histories), 1667, XXXV, 1a—2b.

⁸⁹ The word used by Ssü-ma Ch’ien is *sé* 色 meaning “colors” or “colorful things.” Embroideries being colorful fabrics, we may assume that they are what the historian meant. In *Shih-chi* CXXIX, 10a, where the noted local products of the state of Ch’i are mentioned, Ssü-ma Ch’ien does mention embroideries using the term *wên-ts’ai* 文采 which signifies “patterned and variegated fabrics.”

⁹⁰ See note 87.

⁹¹ The term *chung-kuo*, generally rendered as “central kingdom,” denoted the interior of the country as distinguished from the vassal states in the border regions, and China as distinguished from non-Chinese peoples.

⁹² *Shih-chi*, CXXIX, 1b.

Shih-chi by Ssü-ma Ch'ien. What he describes is but a general picture,⁹³ and he does not pretend to give a complete enumeration. Besides these, jujubes from Yen (roughly modern Hopeh) and An-i (southern Shansi), chestnuts from Yen and Ch'in (roughly Shensi), fish and salt from Yen and Wu (southern Kiangsu), copper from Wu, copper and iron from Pa and Shu (Szechuan), fruits and cloth from Pan-yü (Canton), oranges from Shu, Han and Chiang-ling (Szechuan and southern Hupeh), etc., formed part of the merchandise which crowded many of the markets.⁹⁴

Flourishing trade brought about commercialization of a part of the agricultural produce. We find it stated that a cattle breeder who possessed 50 horses, 166 oxen, 250 sheep, and 250 pigs; a fish grower who produced 1000 piculs (*shih*) in his ponds; an orchardist of 1000 jujube trees in An-i, or of 1000 chestnut trees in Yen or Ch'in, or of 1000 orange trees in Shu, Han or Chiang-ling; a grower of 100 ch'iu trees (*Mallotus japonicus*) in the Yellow River valley, or of 1000 *mou* (land measure) of lacquer trees in Ch'ên or Hsia (central and eastern Honan), or of 1000 *mou* of mulberry trees or hemp in Ch'i or Lu (Shantung); or of 1000 fertile *mou* of grain, or of 1000 *mou* of the *chih* and the *ch'ien* plants (from the flowers of which red and yellowish-red pigments were made), or of 1000 plots of ginger or leeks — that any one of them received a revenue equal to that of a marquis with a fief of one thousand households.⁹⁵ Since a household paid an annual tribute of two hundred cash to its noble lord, this revenue in terms of cash would be 200,000. Calculated at the twenty per cent rate of profit accruing to the farmers, artisans and merchants of the time as recorded by Ssü-ma Ch'ien, a profit of 200,000 represented, so to speak, a capital of one million.⁹⁶ Ssü-ma Ch'ien therefore calls the man of such wealth a "noble without a fief."⁹⁷

According to the same historian the following merchandise was sold yearly in a large city: 1000 jars of wine, 1000 long-necked jars of

⁹³ *Ibid.*

⁹⁵ *Shih-chi*, CXXIX, 14b—15a.

⁹⁷ *Shih-chi*, CXXIX, 14a.

⁹⁴ *Shih-chi*, CXXIX, 7b, 9b, 11a, 12a, 15a.

⁹⁶ *Shih-chi*, CXXIX, 14b.

vinegar, 1000 big jars of sauce, 1000 heads of butchered oxen and cows, sheep or pigs, 1000 *chung* (1 *chung* = 64 *tou* or Chinese pecks) of grain, 1000 wagonloads of fuel, boats of a total length of 1000 *chang* (1 *chang* = 10 *ch'ih* or Chinese feet), 1000 pieces of lumber, 10,000 bamboo poles, 100 carts, 1000 ox wagons, 1000 pieces of lacquered furniture, 1000 *chün* (1 *chün* = 30 *chin* or Chinese catties) of bronze vessels, 1000 *shih* (1 *shih* = 120 catties) of plain furniture, 1000 *shih* of iron utensils, 1000 *shih* of *chih* and *ch'ien* yellowish red pigment, 200 horses, 250 oxen and cows, 2000 sheep, 2000 pigs, 100 slaves, 1000 *chin* (Chinese catty) of animal sinew, horn and cinnabar, 1000 *chün* of silk and fine cloth, 1000 bolts of embroidered silk, 1000 *shih* of *pa-pu* (cotton cloth) and hide, 1000 *tou* (pecks) of lacquer, 1000 *chin* of *pai* fish (a sea fish) and knife fish, 1000 *shih* of *chou* (miscellaneous small) fish, 1000 *chün* of *pao* fish, 3000 *shih* of jujube and chestnuts, 1000 fox and seal furs, 1000 *shih* of lamb skins, 1000 felt rugs, and 1000 *chung* of fruits.⁹⁸

Ssü-ma Ch'ien's record, being given in round numbers, cannot be taken as accurate in detail, nor can it be assumed that it is free from the exaggeration of over-enthusiasm. Nevertheless, the bulk of the statistics he gives, inaccurate though they may be, does reflect the large volume of business transactions in a sizeable city of that day. Again according to Ssü-ma Ch'ien, a merchant could reap a profit of fifty per cent, though some might make less.⁹⁹ In pursuit of trade, the merchants came and departed in large noisy crowds.¹⁰⁰ Profit from their trade was so great that Ssü-ma Ch'ien observed, "For a poor man seeking wealth, farming was not as good as handicrafts, and handicrafts not as good as trade; to embroider silk was not as good as to lean against a shop door."¹⁰¹ "Once a man became rich, all virtues

⁹⁸ *Shih-chi*, CXXIX, 15b–17a. In enumerating quantities of merchandise we have altered the wording of the *Shih-chi* text from which we have quoted. For instance, in the original Chinese the phrase "100 slaves" reads *pung shou ch'ih ch'ien* (one thousand fingers of slaves). Since each slave has ten fingers, we have changed the wording to a simpler expression. Similar changes have been made at other points.

⁹⁹ *Shih-chi*, CXXIX, 17a.

¹⁰⁰ *Shih-chi*, CXXIX, 3a.

¹⁰¹ *Shih-chi*, CXXIX, 15b.

would attach to him."¹⁰² "Precedence was accorded to wealth, and propriety and modesty were not given highest attention."¹⁰³

During this period, many opulent merchants seem to have arisen to considerable influence. In the middle of the third century B. C. Lü Pu-wei, an influential merchant from Yang-ti in the state of Han, interfered with the line of succession in Ch'in. Mainly through bribery he helped onto the throne both King Chuang-hsiang (249—247 B. C.) and later, King Chêng (246 B. C.), who unified China and became known as its First Emperor (221—210 B. C.). Lü Pu-wei was appointed Chancellor (*ch'êng-hsiang*) by King Chuang-hsiang, and received the title of Marquis of Wên-hsin carrying with it a fief of 10,000 households in Lo-yang. When King Chêng ascended the throne, he further honored him by making him the Chancellor of the State (*hsiang-kuo*) and by calling him *chung-fu*, meaning "next to his father." With his wealth he kept ten thousand slaves and three thousand "guests" (clients in the sense given to the word in Roman history). Among his clients were a number of scholars who at his order composed the historically famous work, the *Lü-shih ch'un-ch'iu* or the *Lü lan* (Book of the Lü).¹⁰⁴

Another result of the development of trade during the Chan-kuo period was the rise of the "metropolitan centers" (*tu-hui*). Upon them "the people from the four directions" converged, and from them merchandise flowed to distant corners of the continent of Asia.

In the royal domain of Chou, Lo-yang was the commercial metropolis. The people of Chou were well-known artisans and tradesmen, who received a return on their output, as Ssü-ma Ch'ien gives it, of twenty per cent profit.¹⁰⁵ The rich boasted of their ability to go on business trips of long periods, and the poorer imitated the rich.¹⁰⁶ Through them their metropolis traded with Ch'i and Lu in the east, with Liang (Wei) and Ch'u in the south.¹⁰⁷ "Situated in the middle of Ch'i, Ch'in, Ch'u and Chao, it was (as if) on a street."¹⁰⁸

¹⁰² *Shih-chi*, CXXIX, 3a.

¹⁰³ *Shih-chi*, XXX, 20b.

¹⁰⁴ For the life story of Lü Pu-wei see his biography in *Shih-chi*, LXXXV, 1 ff. Cf. also Derk Bodde, *Li Ssü*.

¹⁰⁵ *Shih-chi*, LXIX, 1a.

¹⁰⁶ *Shih-chi*, CXXIX, 18b.

¹⁰⁷ *Shih-chi*, CXXIX, 9b.

¹⁰⁸ *Shih-chi*, CXXIX, 18b.

In the territory of Ch'i, specifically "between the sea and Mount T'ai (in central Shantung)," Lin-tzŭ was the trading center.¹⁰⁰ Besides being the capital of the state of Ch'i, Lin-tzŭ was a commercial city with a long history and unmatched prosperity (see below p. 177). Through the four centuries until King Hsüan (319—301 B. C.) of Ch'i, Lin-tzŭ was perhaps the richest and most prosperous city in the world then known to the Chinese. As Su Ch'in described it to the King, "On the roads to Lin-tzŭ the wheels of carriages bump each other, and the shoulders of the people rub one another. Connected, the breasts of their coats form a curtain; lifted, their sleeves form a tent; swept, their sweat makes rain."¹¹⁰ It was an emporium of salt, fish, and various silk fabrics.¹¹¹

The metropolitan center in the northeastern part of ancient China was Chi, capital of the state of Yen. It was economically connected with Ch'i and Chao in the south, and traded with the barbarian peoples to its north and east beyond the Chinese borders.¹¹² It provided the interior of ancient China with animal furs, sinews, horns, and horses.

In Chao, the commercial center was Han-tan. It was the state's capital, a center of iron production and many other skillful handicrafts, and an economic pivot for the regions between the Chang and the Yellow River valleys. Its merchants frequented Chi and Cho in Yen in the north and the areas of Chêng and Wei in the south.¹¹³ Though Ssŭ-ma Ch'ien does not so state, there certainly must have been constant visitors on business from Ch'i in the east and from the regions beyond the T'ai-hang mountain range in the northwest. Yang and P'ing-yang, cities in the Fên River valley in central Shansi, were also points of trade. They were the hubs for trade with Ch'in and the Ti barbarians in the west and with Chung and Tai in the north.¹¹⁴

¹⁰⁰ *Shih-chi*, CXXIX, 10a.

¹¹⁰ *Chan-huo ts'ŭ*, *Ssŭ-pu pei-yao* ed., VIII, 8b.

¹¹¹ *Shih-chi* CXXIX, 1a and 2b.

¹¹² *Ibid.*

¹¹³ *Shih-chi*, CXXIX, 8b.

¹¹⁴ *Shih-chi*, CXXIX, 9a. Ssŭ-ma Ch'ien's exact statement reads: "(The people) made a living by relying on the profits from skillful works." Here the "skillful works" may include both artifice handicrafts and trade. In the *Yen P'ieh lun* (Discourses on Salt

Similarly, Wên and Chih constituted the commercial centers south of the T'ai-hang Mountains and north of the Yellow River in present day northwestern Honan. These two cities traded with Shang-tang in the west and with Chung-shan in the state of Chao, in which localities the land was not fertile and the population so large that large numbers were forced to take up trade or skilled handicrafts to earn their living.¹¹⁵

Kuan-chung in modern central Shensi was another important economic area, in which Li-i, replete with "big merchants," served as a commercial center in northwestern China. It supplied the east with the goods from the non-Chinese peoples in the north and the west. To the south it controlled the merchandising of the special products of Pa and Shu (modern Szechuan): the *chih* deep red pigment, ginger, cinnabar, precious stones, copper, iron, and utensils made of bamboo and wood, and monopolized the importation of the slaves from P'o, an area neighboring Pa and Shu in their south. It also had access to the horses and yaks of the barbarians beyond the southwestern Chinese border.¹¹⁶

After the Yangtze River emerged from the gorges on the eastern border of Pa, the first big city on its banks was Ying (modern Chiang-ling), the capital of Ch'u. Ch'u was famous for its economic resources from the Yün-mêng,¹¹⁷ an extensive area which, according to Wang-sun Wei, a Ch'u minister, produced metal (gold), lumber, bamboos, tortoises, pearls, furs (of wild animals), hides (of rhinoceros), feathers, and (yak) tails.¹¹⁸ In the lower Yangtze (called Chiang at that time) Valley, we find the city of Wu, still known today by its old name, which Ssü-ma Ch'ien calls "the metropolitan center east of the Chiang." The salt from the sea, the copper from the Chang-shan mountains, and the products from the many rivers and lakes of this area constituted the main merchandise of this city for export.¹¹⁹

and Iron) Chung-shan of Chao is described as a thoroughfare of the Chou empire, where "merchants infested the roads", and the people "took great interest in the secondary [meaning trade and handicrafts], enjoyed luxury, and did not devote themselves to the fundamental [meaning farming]. Their fields were not cultivated." (I, 7a.)

¹¹⁵ *Shih-chi*, CXXIX, 7b.

¹¹⁶ *Shih-chi*, CXXIX, 10b — 11a.

¹¹⁷ *Kuo-yü*, XVIII, 8a.

¹¹⁸ *Shih-chi*, CXXIX, 11a.

¹¹⁹ *Shih-chi*, CXXIX, 11b.

The center north of the Huai River was Shou-ch'ün, the last capital of the Ch'u. It lay at the juncture of communication routes between the Yangtze Valley and the Yellow River Valley. It was an emporium for animal hides and timber¹²⁰ as well as many other southern products destined for the northern regions.

In ancient times the region between the Huai and the Yellow Rivers corresponding to what is now northern Kiangsu, eastern Honan, northern Anhui and southern Shantung, was traversed by a number of small streams and artificial canals. The most important of the canals was the Hung Kou or the Great Canal. The date of its construction is not exactly known. The description of the Great Canal in the treatise on rivers by Ssü-ma Ch'ien immediately follows the legend of Yü, who was said to have ended the Great Flood by opening nine water-ways in the lower valley of the Yellow River, and precedes the account of the construction of the canals of the Ch'un-ch'iu period (770—481 B. C.). At the latest, the canal appears to have been in existence before the fifth century B. C. Its starting point was in Ying-Yang (same as the modern district of the same name in central Honan) where it connected with the Yellow River. It ran eastwards parallel with the present Lunghai Railway, passed Liang (modern Kaifeng), capital of Liang (Wei), then turned its course southeastwards, and joined the tributaries of the Huai River in modern northwest Anhui.¹²¹ As Ssü-ma Ch'ien sees it, the construction of the canal "was to open the way to and connect the states of Sung, Ch'eng, Ch'ên, Ts'ai, Ts'ao, and Wei, and to join the Chi, the Ju, the Huai, and the Ssü Rivers."¹²² These states covered a large area of ancient east central China, corresponding to what is today northern Honan, southern Hopeh, southwestern Shantung, central and eastern Honan, northwestern

¹²⁰ Ku Tsu-yü 顧祖禹 (1624—1690) holds that the main course of the Hung-kou system was dug by King Yen of Hsü 徐偃王 (*Ching-shih ta-wên*, in *Chieh-i-Ping chi*, *Ssü-pu ts'ung-k'an* ed., VIII, 7a—7b). This will bring the date of its construction back to the first part of the tenth century B. C. according to the traditional chronology.

¹²¹ For more information on the Hung Kou canal system, especially on the courses of the rivers which constituted the system, see Ku Tsu-yü, *op. cit.* 6a—6b.

¹²² *Shih-chi*, XXIX, 2a.

Anhui, and northern Kiangsu. The four rivers mentioned were the main streams of eastern and southeastern China in ancient times.

Another canal whose importance in the economic life as well as in the political struggles of this period was the Han Kou or the Han Canal. This canal was constructed in 486 B. C. by the state of Wu.¹²³ It drew its water from the Chiang (Yangtze River) below the city of Chiang-tu, an historical commercial center. It followed a northward course and joined the Shê-yang Lake in modern central Kiangsu. Emerging from the lake it continued its northward course and joined the Huai River in the area of modern Huai-an. In the Huai-an area it was also connected with the I River which flowed into southern Shantung and the Ssü River which ran to the northwest and met the Chi River.¹²⁴ When the Sui dynasty (589—617 A. D.) constructed the Grand Canal, which was to prove so valuable to later dynasties for transportation of rice from the south, it made use of the original course of the Han Canal for the middle of the present Grand Canal course.

Thus we see that during the later part of the Chou dynasty, the great plain north of the Yangtze, south of Mount T'ai (in central Shantung), west of Lo-yang, capital of Chou, extending as far as the sea, traversed by many water ways, had become an economic whole, in spite of political boundaries. In the heart of the water communication system were situated the states of Sung with its capital Shang-ch'iu located on the site of its modern namesake in eastern Honan, and later P'êng-ch'êng which was what is now the city of T'ung-shan or Suchou in northern Kiangsu, and Liang with its capital Ta-Liang located on the Great Canal itself. Keeping in mind the strategical location which Sung occupied we will easily and fully understand the reason why during the Ch'un-ch'iu period this small state became a prey of Chin, Ch'u and other powers. We will also easily understand how the newly created state of Liang, relying on its strategic position,

¹²³ This period is called the period of the hegemony of the state of Liang (Wei) by Ch'ien Mu, *op. cit.* (see above, n. 82), tables, p. 90—91.

¹²⁴ *Tso-chuan* LVIII, 9a.

could maintain a hegemony for almost a century from 425 to 334 B.C.¹²⁵

In this great plain knit by the well laid water-ways of communication and teeming with commercial activities there were a few cities which may be regarded as "metropolitan centers" in the sense of the word as Ssŭ-ma Ch'ien uses it. But the most famous of them all was T'ao, where the Old Gentleman Chu made his fortune. The city, located in modern Ting-t'ao County in southwestern Shantung, was on the bank of the ancient Southern Chi River. It was situated midway between Lin-tzŭ, Lo-yang, Han-tan and Shou-ch'un — four great metropolises which we have described above. By land route it was within easy access to Han-tan. By the Chi River it could reach both Lin-tzŭ¹²⁶ and Lo-yang. The Great Canal and the Chi River connected it with Shou-ch'un. It was on the *Wu-tao* (cross-road) of ancient China¹²⁷ and regarded as the richest place which could be matched only by Wei.¹²⁸ It was, as Ssŭ-ma Ch'ien puts it, "the center

¹²⁵ For more information on the Han Canal see also Ku Tsu-yŭ, *op. cit.*, 8a—8b.

¹²⁶ Between the Chi River and Tzŭ River on which Lin-tzŭ was situated there was a canal to connect the two. See *Shih-chi*, XXIX, 2a.

¹²⁷ The term *wu-tao* 午道 appears in the *Shih-chi* several times always in connection with the struggle for the region in which T'ao was located. Chêng Hsŭan (127—200) interprets it as meaning "cross-road." While many a scholar holds it as the name of a place with a definite location, Mêng Wên-t'ung 蒙文通 understands it figuratively. He contends that there is no place or road of this name; it refers to the region which was so important to communication in the empire that it was given the name of "cross-road." ("Lun ku shui-tao yŭ chiao-t'ung," (On the water ways and communication in ancient times), *Yü-kung* II (1935), No. 3, p. 4.

¹²⁸ In *Chan-kuo ts'ŭ* (Writings on the Warring States), *Ssŭ-pu pei-yao* ed., XIII, 3a, T'ao and Wei are mentioned together as places of wealth. The text is also quoted in *Shih-chi*, LXXXIII, 8a. Some commentators regard T'ao and Wei as referring to two persons. They are the Old Gentlemen Chu of T'ao and Prince Ching of Wei to Yen Tu 延篤, or the lord of T'ao (Wei Jan) 魏冉 and the lord of Shang, whose name was Wei, to Wang Shao 王劬. In either case, it makes no difference whether "T'ao" refers to the Old Gentleman Chu or the Wei Jan, the noble who owned T'ao as his fief, because both unequivocally refer to the same T'ao and both indicate that T'ao was a place of great wealth. With regards to "Wei" the comments advanced are not convincing. Prince Ching of Wei was not known for his riches; nor was the lord of Shang. Furthermore, if it were the Lord of Shang who is referred to as

of the world, from where all the feudal states could be reached and where merchandise was bought and sold."¹²⁹ Hence it was coveted by all the warring states. In 386 B. C. the Chao state moved its capital to Han-tan, and in 362 B. C. Liang moved its capital to Ta-Liang. The action of both states was aimed at the struggle for the "Cross-road" and the area around the metropolis of T'ao. When the state of Ch'in embarked on its conquest of the rest of the Chou empire it first cut a long corridor through the territories of Han and Liang and took T'ao before 291 B. C., seventy years before it accomplished the conquest. The occupation of T'ao, the economic center and strategic point of the day, must have contributed much to the unification of ancient China by Ch'in in the following decades.

The rise of T'ao and the importance of the "Cross-road" were direct results of the commercial development during the Chan-kuo period. The economic forces of trade also created other metropolises, which served as focal points for their respective regions and helped bring about political unification.

However, from all this it is not to be understood that the economic life of China before the end of the third century B. C. had become highly commercialized. China was, as it still is generally, fundamentally agrarian. Economic production was not as much for the market as it was for the immediate needs of the household. Yet, in the framework of this agrarian economy, commerce had made its appearance, grown in importance, served well the economic life of ancient China, and called forth the use of metallic money, which gained increasing significance as trade developed ever further.

Even if the use of metallic money had been prevailing, it may be assumed that not every business transaction was made through this medium of exchange. Compared with Chou China, the Mediterranean "Wei," why is he not directly referred to as "Shang," but as "Wei?" as in the case of the lord of T'ao? If we understand "T'ao and Wei" as two places equally renowned for their wealth, then we will have no trouble in interpreting the text and the context in which the phrase stands. In the *Han-wei-tzu* "T'ao and Wei" are mentioned as places of great importance. (V, 11a).

¹²⁹ *Shih-chi*, CXXIX, 4b.

world of antiquity appears to have been more commercialized. Even in this case Prof. W. L. Westermann has cautioned us not to minimize exchange in kind against exchange in money; for, he argues, "Constantly throughout antiquity exchange in natura and exchange in money form appear side by side."¹³⁰ The same may be also said of China of the Chou period.

¹³⁰ "Warehousing and Trapezite Banking in Antiquity," *Journal of Economic and Business History*, III (1930—1), 30—31.

III. MONEY BEFORE COINAGE — COWRIES AND THEIR IMITATIONS

I. COWRIE SHELLS AS MEDIA OF EXCHANGE

In his brief treatment of money in Chinese antiquity, Ssŭ-ma Ch'ien (145—86 B. C. ?) mentions tortoise shells and cowrie shells as objects which had been used as currency and indicates that pearls, jade and tin had also been so used besides gold, silver, and the spade and knife coins of bronze.¹ Scattered statements in the literature of the Chou period tend to lend credit to his report. However, it is rather unlikely that all of these were used without preference either throughout the whole Chou period, or in all parts of ancient China. This would be true especially after trade had developed to a considerable extent, say from the Ch'un-ch'iu period on, when portability and homogeneity would be required of a currency. Tortoise shells were of limited use in divination only and are too bulky to be conveniently transported. Pearls and jade did not exist in any appreciable quantity. Neither gold, nor silver, nor tin was produced within the borders of the Shang and the Chou kingdoms, and therefore they lacked another requirement of a currency — general availability. Because of their limited availability and consequently high value, they could not have been suitable for use in ordinary business transactions. Among the monetary commodities mentioned by Ssŭ-ma Ch'ien, only cowrie shells, copper and bronze met both these qualifications of a satisfactory exchange medium, portability and availability.

¹ *Shih-chi*, XXX, 20b—21a. The historian's terms for gold, silver and bronze are "yellow," "white" and "red" metals. So far as we know, gold and silver were never cast into any form of coin; they were used in the shape of bullion. Possibly so was bronze for some time.

To be sure, neither copper nor cowries were of local origin, but they seemed to have been available in such quantities that they could have served as currency.³ Both were employed in the beginning as barter units, copper in the form of a spade or a knife and cowries as ornaments. Spades and knives were commodities of general use, and cowries owed their desirability as money to their highly ornamental value and their magic functions. This agrees with the general principles on the origin of money laid down by William Ridgeway.

The importation and use of cowrie shells in China has had a long history. It is well known that a specimen was discovered by J. G. Andersson at the neolithic site at Yang-shao-ts'un, Honan. In the graves of Chu Chia Chai, which also contained pottery of the "Yang-shao" stage, a piece of bone was found carved in imitation of a cowrie shell.³ Seventy-three genuine shells were dug out of the old tombs at Tou-chi-t'ai in the county of Pao-chi, western Shensi. They evidently served as both ornaments and for magical purposes.⁴ The archaeologist Su Ping-ch'i has dated these tombs as belonging to the period of "bent-feet *li*" (the *li* is a tripod), which in his chronology is intermediate between the black pottery (Lung-shan type) culture and the end of the Shang dynasty.

When the site of Yin-hsü, at An-yang (northern Honan), which served as a capital to the Shang kings for the last four to five hundred years of their dynasty was excavated by archaeologists of Academia Sinica, large numbers of the shells were discovered. During the first season, in 1928, ninety-six "cowrie shells and large clam shell utensils" were excavated.⁵ In 1929, a pit designated as Ta-lien yielded "a layer of cowries" together with some bronze objects and stone knives at a

³ The existence of large quantities of copper during the Shang and the Chou periods can be gauged from the large amount of the bronze wares, bronze weapons and other bronze objects which are preserved and discovered today.

³ J. G. Andersson, *Children of the Yellow Earth*, 1934, 323.

⁴ Su Ping-ch'i 蘇秉琦, *Tou-chi-Pai kou-tung-ch'ü mu-tsang*, 1948, 17—71, 233—4.

⁵ Tung Tso-pin, "Chung-hua-min-kuo shih-ch'i-nien shih-ch'üeh An-yang Hsiao-t'un pao-kao-shu," *An-yang fa-ch'üeh pao-kao* 安陽發掘報告, I (1929), 35.

depth of 5.6 meters, between a layer of tortoise shells and another of clam shells.⁶ In 1931, cowries were found in pit E 16 at a depth of 4.5 to 4.9 meters.⁷ A considerable number — the report says “very many” — were found in Section B 14 at a depth of 1.1 meters. In 1932, some more were found in Section E 157 at a depth of 2.4 meters together with some pottery, clam shells, stones, tortoise shells and reindeer horns.⁸ In the same year in the square pit designated as E 181, at the depth of 6 meters, 163 cowrie shells and two large shells were found together with a long *lo-shih* (*melania libertina*), tortoise shells, bone plates, stone knives, animal bones, stone *ch'ing* music instruments, stone vessels, carved stones and clam shells.⁹ It must be noted that the square pit designated as E 181 and the rectangular pit designated as Ta-lien have been identified by the archaeologists who participated in the excavations as *kao* or store pits.

Now the question arises: Had the cowrie shells discovered in the Shang remains been used as money? To this question the answers offered are almost unanimously affirmative. Archaeologists such as Li Chi and Tung Tso-pin, who participated in the Yin-hsü excavations, assert that they were.¹⁰ So do also Creel and Okutaira and some

⁶ Li Chi 李濟, “Min-kuo shih-pa-nien ch'iu-chi fa-chüeh Yin-hsü chih ching-kuo chi ch'i chung-yao fa-hsien,” *An-yang fa-chüeh pao-kao*, II (1930), 236.

⁷ Li Chi, “An-yang tsui-chin fa-chüeh pao-kao chi liu-tz'ü kung-tso chih tsung-ku-chi,” *An-yang fa-chüeh pao-kao*, IV (1933), 565.

⁸ Shih Chang-ju 石璋如, “Ti-ch'i-tz'ü Yin-hsü fa-chüeh: E ch'ü kung-tso pao-kao,” *An-yang fa-chüeh pao-kao*, IV (1933), 719—720.

⁹ Shih Chang-ju, *op. cit.*, 723.

¹⁰ In one of his articles on the findings at Yin-hsü, Li Chi says “Both the cowrie and clam shells were carved into ornaments; they were also money in circulation at the time. The salt-water shells were mostly used for money, and the fresh-water shells were mostly used for ornaments.” *An-yang fa-chüeh pao-kao*, IV (1933), 375. This statement is shrouded in ambiguity. It is regretted that Prof. Li, like all others dealing with the problem, fails to offer any evidence to prove his point. Prof. Tung Tso-pin writes, “During the Yin (Shang) dynasty cowries were definitely the important money. Of those discovered [at Yin-hsü] which have a hole for stringing all belong to it (money).” *T'ien-yeh k'ao-hu pao-kao* 田野考古報告, I (1936), 126. He, too, fails to supply his reasons.

other Chinese scholars.¹¹ While in an earlier publication Kuo Mo-jo seems to have the idea that cowrie shells were used as money during the Shang time;¹² in a later one he expresses the opinion that use of cowries as money began during the transitional period from the Shang to the Chou,¹³ which, according to the traditional chronology, is around 1122 B. C. However, none of these scholars has produced any evidence to support their opinions.

Before attempting our own answer to the question, let us first examine the available facts, archaeological as well as historical. In the literature of or concerning the Shang dynasty we have only one statement on the cowries. It is in the chapter P'an-k'eng in the *Shang-shu* (Book of Documents), popularly known as the *Shu ching*.¹⁴

¹¹ Creel, *Birth of China*, 69, and 91—2. Okutaira, *Tōa senshi*, II, 24a—24b. Lo Chên-yü is one of these Chinese scholars. His opinion is found at the end of his work *Yin-hsü ku ch'i-wu fan fu-lu*. The scholars quoted in this and the preceding notes are those who have expressed their opinions directly in connection with the Yin-hsü finds. Not in direct connection with the Yin-hsü finds, but rather in a general manner, some other scholars have expressed similar opinions. Terrien de Lacouperie has alleged that cowrie shells had been used as currency as far back as the twenty-third century B. C. ("Metallic Cowries of Ancient China," *Journal of the Royal Asiatic Society of Great Britain and Ireland*, XX, 1888, 428ff.). Henry A. Ramsden says that cowrie shells were used as money during the Shang dynasty ("The Cowry Currency of Ancient China," *The Numismatic and Philatelic Journal of Japan*, II, 1913, 161). A number of other Western numismatists share their opinion. Henry E. Gibson even goes as far as to allege, "It has been definitely determined that during the Shang period (1766—1122 B. C.) the use of *Cypraea* shells as a medium of exchange was well established and actually the money of the period." ("The Use of Cowries as Money During the Shang and Chou Periods," *Jour. N. C. B. Royal Asiat. Soc.* LXXI, 1940, 33.) But if we should ask how and when the question "has been definitely determined," Mr. Gibson may not be able to answer. Copied from one another a belief has become a conviction, and a conviction a fact.

¹² *Ku-tai shê-hui yen-chiu* (a study of ancient Chinese society), 1930, 3rd print, 251.

¹³ *Pu-tz'ü Pung-tsu'an*, 1934, III, 101.

¹⁴ The P'an-k'eng chapter in the *Shang-shu* has been accepted as a reliable document concerning the Shang dynasty by such leading Chinese historians as Wang Kuo-wei in the past (*Ku shih hsün ch'eng*), and Kuo Mo-jo at the present (*Shih p'i-p'an shu*, 1945, 15). But Creel contends that it is a forgery, and certainly it cannot be regarded as reliable historical literature. The reasons which Creel lists to prove the document a forgery are: 1) During the Shang time its capital was called Shang or *ta i Shang*, "the

In this document, P'an-k'eng, the Shang king who moved the Shang capital to Yin (hence Shang is also designated as Yin) on the site of what is now known as Yin-hsü, reproached his ministers for neglecting their duties and coveting "cowries and jade." At the end of the document the king instructs his ministers thus, "You shall not accumulate the *huo* and the *pao* and make profits for your own use." "*Huo*" means "money," and "*pao*" means "treasures." These words obviously have reference to the "cowries and jade" used in the beginning of the document. Since these objects, or at least one of them, could yield the profit or income indicated in the words of P'an-k'eng,

great city Shang," while in the document it is called Yin; 2) In the inscriptions on the oracle bones the chief Shang deity is the *Shang Ti* (god on high) while in the document it is *T'ien* (Heaven); 3) The style of the writing does not seem to be of Shang origin because it is smoother than the inscriptions or the authentic books of the Western Chou period; 4) The document fails to state the reasons why P'an-k'eng moved his capital to Yin, a fact which shows the forger to be ignorant of them. (*Studies in Early Chinese Culture*, Baltimore, 1937, 65—67). Creel's accusations show some legitimate ground to doubt the writing as a contemporary original document, but they are not sufficiently strong to prove it a forgery. The factors which led P'an-k'eng to move his capital to Yin may have been known to his people, and thus a statement on that point may have not been necessary. The question of the style, while plausible in one respect, is uncertain in others. Any comparison of the writing with the terse inscriptions on the bronze vessels for obvious reasons is inappropriate. Compared with Chou literary documents its smoothness is very slight, and it is a matter of degree not of substance. I, for one, cannot be sure if I understand correctly more than half of the document. Other scholars may not be able to claim much more. Furthermore, in intellectual training and in cultural life as a whole the Shang people were much superior to the Chou. It is not unnatural to find better writing by the hands of Shang intellectuals. Later revisions and copyist changes may have taken place and altered the original composition somewhat. But revision does not imply forgery. Creel's discussion on the god of T'ien is based on negative evidence. The Chou people worshipped both *T'ien* and *Shang Ti*. The Shang people may have done the same. The phrase which Creel reads *ta i Shang* is also written *Pien i Shang* in no less than three oracle bone inscriptions. On the name of the capital of P'an-k'eng, Creel shows that he has not studied the inscriptions on the oracle bones carefully. In those inscriptions "Shang" or the "*ta i Shang*" or "*Pien i Shang*" does not refer to the capital in Yin to which P'an-k'eng moved but to the older capital of Shang which was what is now called Shang-ch'iu in eastern Honan (See Tung Tso-pin, *Yin li p'u*, 1945, Part II, IX, 62f). Shang-ch'iu was also the capital of the Sung state during the Chou dynasty, and the ruling house of the Sung state were the descendents of the Shang kings.

they obviously had an economic function beyond their ornamental value.

The importance attached to cowrie shells by the Shang and their possible monetary function may also be gathered from certain inscriptions on oracle bones, which are of a divinatory character, and those on bronze vessels, which serve a commemorative purpose. One oracle bone inscription says:

(Divined) on *kêng-hsü* day, (a personal name) declaring the query: Grant (one) *p'êng* of cowries to the mothers (or wives).¹⁵

Another, which is very fragmentary, reads:

Mother (or wife)
ten *p'êng* (of cowries)
() the sons.¹⁶

These are divinations for granting cowries. The *p'êng* is the unit which will be discussed on another occasion.

A third oracle bone inscription is a divination asking whether cowries would be captured. It reads:

Divined on *wu-shên* day, (a personal name) declaring the query: Would there be captured cowries?¹⁷

Besides these there are four more fragmentary inscriptions recording the "taking" (or "receiving") of cowries:

1. ... takes cowries.¹⁸
2. ... takes one hundred cowries
... takes six hundred cowries.¹⁹

¹⁵ Lo Chên-yü, *Yin-hsü shu-ch'i hou-pien* (A supplementary collection of the inscriptions of the oracle bones found in Yin-hsü), Part II, 8, no. 5.

¹⁶ Quoted in Okutaira, *Toa senshi*, II, 25a.

¹⁷ Lo Chên-yü, *Yin-hsü shu-ch'i ch'ien-pien* (An earlier collection of the inscriptions of the oracle bones found in Yin-hsü), V, 10, no. 4.

¹⁸ Quoted by Tung Tso-pin in his "An-yang Hou-chia-chuang ch'u-t'u chih chia-ku wên-tzũ" (The oracle bone inscriptions unearthed at Hou-chia-chuang village in An-yang," *T'ien-yeh k'ao-ku pao-kao* (Journal of Field Archaeology), I (1936), 126.

¹⁹ *Ibid.*

3. . . . takes cowries.²⁰
4. Divined on *ting-hai* day, Kuang takes two *p'êng* of cowries, in the first month. Took.²¹

The meaning of the character *ch'ü* (to take) in the inscriptions above quoted is not clear. It may have been used in the sense of "to receive" as Dr. R. S. Britton has indicated. In a number of the Chou bronze inscriptions there are found expressions such as "*ch'ü* (an undecipherable monetary appellation) five *lieh* (a weight or monetary unit)," "*ch'ü* () twenty *lieh*," and "*ch'ü* () thirty *lieh*." Those who take or receive the money (*ch'ü*) are all ministers of the Chou court. Kuo Mo-jo regards the expression as denoting that a given minister takes (or receives) a given amount of money as monthly salary.²² This interpretation is plausible. However, whether the same character is used in the same sense as it is in the oracle bone inscriptions is hard to say.

According to Tung Tso-pin, inscription No. 1 belongs to the period ending 1281 B. C.; No. 2 belongs to the period from 1240 to 1227 B. C.; Nos. 3 and 4 belong to the period from 1209 to 1112 B. C., which corresponds to the reigns of the last two kings of the Shang dynasty.²³

In the inscriptions of the Shang bronzes we more frequently find references to grants of cowries to those who had the bronzes made. There are nine such inscriptions in the *Yin wên ts'un* (A Collection of the Yin or Shang bronze inscriptions) and the *Hsü Yin wên ts'un* (a supplement to the former work).²⁴ A typical one reads:

On the day *ting-mao* the king ordered Tsu-tzü to meet
(the chief or representative of) the Kuei state at Hsing.

²⁰ *Ibid.*

²¹ *Ibid.* The translation of this inscription is also found in Britton, *Fifty Shang Inscriptions*, 1940, 15.

²² *Liang Chou chin-wên-t'ü ta-hsi k'ao-shih*, I, 57b.

²³ Tung Tso-pin, *ibid.*, and *Yin li-p'u*, Part I, I, 2a.

²⁴ The second work may contain some inscriptions belonging to the early Chou, but that would not affect our case.

Upon his return the king rewarded him with one *p'êng* of the cowries which were captured in the expedition against Yung. For this he (Tsu-tzŭ) made this tripod in honor of his father I.²⁵

In some of the inscriptions the number of *p'êng* granted is not recorded, a fact which indicates that the number may be one. The numbers which are given range from one to ten.

The fact that meritorious ministers of the Shang kings were rewarded with cowries which evidently served no ornamental purpose indicates strongly the financial value of the shells.²⁶

In the inscriptions of the Chou bronzes, especially those of the first three centuries of the dynasty, the use of cowries as rewards and gifts by kings and nobles to their inferiors is very conspicuous. Of the 162 inscriptions concerning the royal court of Chou, which have been collected, dated and discussed by Kuo Mo-jo in his *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, twenty-one contain statements of grants of cowries as rewards or gifts. The bronze inscriptions on the vessels classified by him as belonging to the various feudatories are not included in this count.²⁷ The following are two examples in the simplest form:

²⁵ Lo Chên-yü, *Yin wên ts'un* (A collection of Yin inscriptions), I, 8b, no. 2. Transcriptions of the inscription are also found in Yü Hsing-wu 于省吾 *Shuang-chien-ch'ih chi-chin-wên hsüan*, III, Part 1, 4a-4b; and Wu K'ai-shêng 吳闓生 *Chi-chin wên lu*, I, 10b. Yü Hsing-wu, like some other epigraphers, reads the character for "Kuei" as *hsi* or "western." Wu K'ai-shêng reads the character for "Hsing" as *hsiang* 相. The phrase "which were captured in the expedition against Yung" is given by Wu.

²⁶ There is no literary or archaeological evidence which indicates that the male nobility of the Shang or the Chou dynasty used cowries as personal decorations.

²⁷ Creel reports that he found thirty-three inscriptions of the Chou period in which "cowries are said to have given, as reward for service or as a mark of esteem, to vassals by their superiors." (*Birth of China*, 92). This number should include the twenty-one inscriptions which have been dated more closely by Kuo Mo-jo and which we have used in our present study. Creel's number should also include the inscriptions on the bronzes belonging to the Chou feudatories. Jung Kêng 容庚 lists fifty-one inscriptions which have the character *pei* (cowries) (*Chin-wên pien*, 1939, VI, 13b-14a). In the bronze inscriptions whenever cowries are mentioned they are always in the form of a grant. Jung Kêng's fifty-one include a few inscriptions of the Shang period.

In the thirteenth month, on the day *hsin-mao*, the King was at Han. He granted Ch'ien a fief called (the name of the fief, undecipherable). He granted [him also] five *p'êng* of cowries. In gratitude for the king's favor, he (Ch'ien) had this Chi precious vessel made.²⁸

When King Ch'êng offered the great Pên sacrifice at Tsung-chou (capital of Chou), he rewarded Marquis Hsien, Hsiao, cowries. For this he (Marquis Hsien) had this Marquis Ting vessel made. T'ien-yüan [clan].²⁹

Although the reasons for these grants are not expressed, it is obvious that they were made in return for some meritorious service by the beneficiaries. Another inscription on a *kuei* vessel made by Su indicates that he received cowries and was exempted from further military service on account of his valor in a campaign against the Eastern Barbarians.³⁰ A tripod made by Lu bears a record that ten *p'êng* of cowries had been bestowed upon him for his contributions in a campaign against a barbarian people in revolt.³¹

As to the question whether cowries were used as money during the Chou time, we have not the slightest doubt. The well informed great historian Ssü-ma Ch'ien says that they were,³² as do the learned scholar Hsü Shên (first century A. D.)³³ and the authoritative commentator on the Confucian classics, Chêng Hsüan (127—200).³⁴ In the original text of the *I* or the *I ching* (a book for divination) the loss of cowries is expressed as the loss of property.³⁵ In a love ode in the *Shih* or the *Shih ching* (a book of odes) a girl sings that after she met her man he gave her one hundred *p'êng* as a gift.³⁶ As has been correctly commented by Chêng Hsüan, the phrase "one hundred *p'êng*" means

²⁸ Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, I, 15b.

²⁹ Kuo Mo-jo, *op. cit.*, 31b.

³⁰ Kuo Mo-jo, *op. cit.*, 23a—23b.

³¹ Kuo Mo-jo, *op. cit.*, 27a.

³² *Shih-chi*, XXX, 21a.

³³ *Shuo-wên chieh-tz'ü* under the character *pei* 貝 or cowrie.

³⁴ *Shih ching*, X, 5a, note.

³⁵ *I ching*, under the *Hsün* 損 divinational diagram.

³⁶ *Shih ching*, X, 5a.

that many *p'êng* of cowries.³⁷ Since the amount of the gift is very large, it is not likely that the cowries were ornamental objects. In the *Li chi* (Book of Rules), another Confucian classic, it is advised that if an inferior wants to give gold, jade, or "money cowries" to his lord when the latter is about to go on a trip, it is proper for him to say that he wishes to present some "horse fare" (traveling fare) to his lord's attendants.³⁸ The word "money" in the phrase "money cowries" is *huo*, which, when used in the Chou literature to denote a gift, may mean gold, jade, silk, furs or any other valuable. Since in this case gold and jade, which are also *huo* for gift, have been specifically mentioned, the character in the present text can only mean "money" modifying "cowries."

The use of cowrie shells as money is also corroborated by archaeological finds. In recent years, large numbers of cowries have been discovered in the graves of the Chou period. The conditions in which they were discovered point to the fact that they were money. In a tomb uncovered in 1923 at Hsin-chêng in central Honan, 317 cowrie shells were found.³⁹ The excavation was not performed by trained archaeologists, and therefore exact information is not given; but according to Kuan Pao-ch'ien, these cowrie shells were found in one tomb. They were not deposited at the place where the coffin lay, but in and around a large bronze tripod and a square bronze *tsêng* vessel at the southern end of the grave.⁴⁰ Judging from the large number of bronze vessels found, the tomb must have contained the bones of a member of the high nobility. Since cowries occurred in such quantity to preclude their use as magical objects, and because of their disposition at a distance from the body, Kuan Pao-ch'ien was led to conclude, and rightly so, that these cowries functioned as mortuary gifts, money to be used by the dead.⁴¹

³⁷ *Ibid*, note.

³⁸ *Li-chi chu-shu* 1871, XXXV, 3a.

³⁹ Chin Yün-o 靳雲鶚, *Hsin-chêng ch'u-p'u ku-ch'i p'u-chih hsü-pien* (A supplementary illustrated catalogue of the ancient objects unearthed in Hsin-chêng), 1923, 8b.

⁴⁰ Kuan Pao-ch'ien 關葆謙, *Hsin-chêng ku-ch'i p'u-k'ao* (Studies with illustrations of the ancient objects unearthed in Hsin-chêng), 1940, XI, 20a—20b. ⁴¹ *Ibid*.

From the spring of 1932 to December, 1933, about a hundred tombs of the Chou period were found in Chün County in northern Honan, about forty miles southeast of Yin-hsü. From some of them 3472 cowrie shells were recovered. These cowries, "mostly" deposited around the burial vessels, were strung together.⁴³ According to Kuo Pao-chün, the archaeologist, these were tombs of members of the ruling house of Wei, ranging in date from its first ancestor, K'ang-shu, who was enfeoffed in 1113 B. C. (traditional date), to Duke Ch'êng (634—589 B. C.).⁴³ The earliest datable bronze vessel, a *tsun*, is said to have been made by Duke Wu (812—758 B. C.).⁴⁴ Since their disposition is like that of the shells in the Hsin-chêng tomb (namely, in or around the burial vessels at a distance from the corpse), we are inclined to regard them also as money, and the money for the dead is an imitation of that for the living.

If all this evidence should fail to convince our readers that cowries were used as money during the Chou period, we offer one more piece which should be sufficient to rid them of any doubt. This is an inscription on a bronze *tsun* vessel. It reads:

Lord of Chü, Yüan, had this precious vessel made. He
used fourteen *p'êng* of cowries.⁴⁵

The inscription is probably of early Chou origin.⁴⁶ No record can be more definite. Since cowrie shells were used as money by the Chou

⁴³ Kuo Pao-chün 郭寶鈞, "Chün Hsien Hsin-ts'un ts'an-mu chih ch'ing-li," *T'ien-yeh k'ao-hu Pao-kao*, I (1936), 193—4.

⁴⁴ Kuo Pao-chün, *op. cit.*, 200.

⁴⁵ Sun Hai-po 孫海波, *Chün-hsien i-ch'i* (The bronze vessels recovered in Chün County), 1937, 13a—14b.

⁴⁶ Wu Shih-fên 吳式芬 (1796—1856), *Chün-hu-lu chin-wên* (A collection of the ancient inscriptions: the bronze inscriptions), 1895, XXII, 3a. While this scholar reads the combined characters as "fourteen," other epigraphers read it as "thirteen." Kuo Mo-jo regards "Chü Po" (Lord of Chü) as the *tsü* (style) of the person who made the vessel. He reads "Yüan" as "Huan," which, he thinks, is the name of the person. (*Chin-wên ts'ung-k'ao*, 1933, 106b—107a).

⁴⁷ Wu K'ai-shêng holds this opinion. *Chi-chin wên lu*, II, 20a.

people and since such usage is recorded on the above cited vessel, a natural inference is that the cowries mentioned as rewards and gifts on other bronze vessels may also be considered as money.

So much for the monetary nature of cowrie shells used by the Chou people as recorded in their bronze inscriptions. Are the cowrie shell grants recorded in the inscriptions of the Shang dynasty of the same nature? Our answer is affirmative. These are the reasons. First, a comparative study of the bronze inscriptions of both the Shang and the Chou periods in which the grants of cowrie shells are recorded and of which examples have been quoted above reveals an unmistakable similarity between the two in the way the cowries were granted, both in the formulation of the statements of the grants and in their economic implications. Since the cowrie shells in the Chou inscriptions are money, those recorded in the Shang inscriptions of similar nature must be the same.

Secondly, we know that King Wu, conqueror of Shang and founder of Chou, already made grants of money, as evidenced by the inscription on a *chih* wine vessel which records the courtier Tan as the recipient of such a gift.⁴⁷ In view of the fact that the Chou people were rather backward economically, it does not seem likely that the founder of this dynasty should have initiated such an advanced institution as money. Therefore, the use of cowrie shells as money must have originated in the Shang period.

As we have stated before, the Shang people had already engaged in trade and carried their business to distant regions. Under those circumstances, their use of money was not only natural but probably inevitable. Thus we arrive at the conclusion that the Shang people used money (of which cowrie shells were one form), and that the cowrie shells discovered in the Shang remains must have been money or material to be used as money.⁴⁸

⁴⁷ Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, 2b.

⁴⁸ The cowrie shells discovered in the Shang remains are said to be of two types(?). One type has its dorsal side ground flat while the other has a hole instead. It is not known whether the grinding of their dorsal side has any relation with their use as

This conclusion does not, of course, exclude the possibility that the Shang people also used cowries for other purposes. It is almost certain that they served also as ornamental and magical objects, and it is as such that they acquired value, which led to their use as money. Most likely their function as ornamental and magical objects continued long after other more satisfactory media replaced them as currency.

2. THE SPECIES OF THE COWRIES AND HOW THE ANCIENT CHINESE OBTAINED THEM

Although cowrie shells have been discovered by the thousands in Shang remains and Chou tombs, detailed descriptions of them are regrettably lacking. Some of the shells discovered between 1928 and 1932 in Yin-hsü are described by Li Chi, the archaeologist, as "salt-water-shells."⁴⁹ Tung Tso-pin, who also took part in the excavations, has informed the author that some of the cowrie shells found in the Yin or Shang ruins have their dorsal side ground flat and that others have been holed only. The Japanese scholar Nishimura Shinji reports that he possesses a cowrie shell which was originally deposited in a bronze *lei* vessel discovered in Yin-hsü. He identifies his shell as of the species *Cypraea moneta*.⁵⁰ It is 22 mm. in length and 17 mm. in width. Each of the outer labia on the front has twelve horizontal nicks. The color of the outside surface seems to have been a lustrous light yellow. However, most of the enamel part has been worn away. It has a large hole on its dorsal side, which, as he says, is probably due to the shell having been ground down to a flattish oval shape.⁵¹

The collection of the Museum of The American Numismatic Society has twenty-four specimens of cowrie shells (cf. PLATE I, 1—3). Of them twenty are from the collection of Henry A. Ramsden, and four money or ornamental objects, though Prof. Tung Tso-pin has voiced the opinion that those with their dorsal sides ground flat were used as money. All the cowrie shells recovered from the Chou tombs seem to have been ground flat.

⁴⁹ *An-yang fa-chüeh pao-kao*, IV (1933), 375.

⁵⁰ Shinji Nishimura, "Ancient Chinese Coinage and Its Origin," *Canton*, I (1939), No. 4, p. 26.

⁵¹ *Ibid.*

are from that of John Reilly, Jr. They are of the species of *Cypraea moneta* and *Cypraea annulus*. The *Cypraea moneta* has a purple top on the dorsal side, and the *Cypraea annulus* has a yellow ring around the top. The species of those whose dorsal sides have been ground flat or broken off can be identified by a comparison of their ventral sides. Three of the four specimens in the collection of Mr. Reilly have been badly decomposed, their enamel having disappeared altogether. Their dorsal sides are ground flat. The inside of the shells is filled with aged earth, a sign of long burial under ground. In size they average 20 mm. in length and 15 mm. in width.

According to Ramsden his twenty specimens formed part of a find discovered in the neighborhood of Chang-tê-fu, Honan, May, 1913.⁵² Chang-tê-fu is the modern An-yang, where in Yin-hsü, or the "ruins of Yin (Shang)," the bronzes and oracle bones of that dynasty were dug up. If the report is correct, Ramsden's specimens may have come from the same ancient site. These specimens (cf. PLATE I, 1, 3) have been described and illustrated in Ramsden's article, "The Cowry Currency of Ancient China," published in the *Numismatic and Philatelic Journal of Japan* in 1913. They are of various sizes. The largest measures 30.5 mm. in length, with thirteen horizontal nicks on the right and twelve on the left of the ventral side. The smallest measures 12 mm. in length with eleven horizontal nicks on the right and twelve on the left of its ventral side. Six of them have their dorsal side ground flat. Fourteen others have one or two apertures. The holes on three are so large that it appears as though the shells had been ground down to that point. All are discolored, and the surfaces of most of them are decomposed.

As is generally known, both *Cypraea moneta* and *Cypraea annulus* grow in large numbers in the Indian Ocean and some parts of the South Seas. Neither species is found in the China seas. In a letter to the author, Dr. William Ingram, an expert on mollusks, says that the places nearest to China where cowrie shells are reported to have been

⁵² "The Cowry Currency of Ancient China," *The Numismatic and Philatelic Journal of Japan*, II (1913), 163.

found are the Japan seas in the Japanese Islands, Formosa, the Hong Kong area, the Cochin coast, the Philippines, and certain areas on the Malay Peninsula. He adds that they are also reported to have been found on the China coast, but this is not confirmed. Dr. John C. Armstrong of the American Museum of Natural History mentioned to the author the area around the Tizard Banks, the Ryukyus and Hakodate in Japan as the habitat of the cowries which is nearest to China, observing that he was skeptical about reports on other places because they were not made by scientists. Even if reports on these doubtful localities were reliable, the number of cowrie shells growing at them cannot have been large.

Some of the cowrie shells found in the Shang and the Chou remains may have come from any of the places mentioned above. Some may have been brought from as far as the coast of the Indian Ocean and the islands off the Indian Peninsula. A passage in the later edition of the *Bamboo Annals* (*Chin-pên chu-shu-chi-nien*) states that in the first year of King Li of Chou (877—842 B. C. in the traditional chronology) the state of Ch'u in the present Yangtze valley sent cowries to the Chou court as tribute. Although the passage is found only in the later edition, there is reason to believe that the record is reliable.⁵³ Similar payments of which we have no record must have been made in other years.

⁵³ In the inscription on a *p'an* vessel made by Hsi-chia (*Liang Chou chin-wên-ts'ü ta-hsi k'ao-shih*, 143b) and another on a *kuei* vessel made by Shih Yüan (*op. cit.*), the Chou king asserts that natives in the Huai River region who were his subjects offered him 𧇵. The character, made up of the character *po* 白 for "white" and *pei* 貝 for "cowrie," is understood by Kuo Mo-jo as the original form of the character *pu* 布 (spade coin or cloth) (*op. cit.*, 144a and 148b). But this suggestion is untenable. Since the character is composed of the character for "white" and the character for "cowrie," there is reason to understand it as signifying "white cowrie." The character might have been coined to differentiate white cowries from cowries (or shells other than cowries) of variegated colors. Both *Cypraea moneta* and *Cypraea annulus* which have been discovered in the remains of the Shang and the Chou periods are predominantly white. If our suggestion is satisfactory, then "White cowries" must have been a specified tribute offered by the Huai people to the Chou court.

In the inscription on the *kuei* vessel made by the head of the Huai state (*op. cit.*, 147a) it is stated that the chief of a certain conquered state came to the Chou king to

Next to tribute, war booty was probably the main source of cowries for the court of Chou. A number of bronze vessel inscriptions refer to "capture of cowries,"⁵⁴ an event which must have been of some importance to be commemorated by the casting of a bronze vessel. While there is no mention of the exact amounts of such loot, it may be assumed that it was considerable in quantity.

Besides these sources of cowries a third can be reasonably assumed, ordinary exchange with the people who possessed, or had access to, them and the amount so acquired by the Chinese may have been considerable.

3. IMITATIONS OF COWRIE SHELLS

Various materials have been used in making imitations of cowrie shells. Lo Chên-yü has reported the discovery of bones carved in the form of cowries in Tz'ü-chou (present day Tz'u County), southern Hopeh, not far from An-yang.⁵⁵ According to Hamada Kosaku, Lo had in his possession forty such specimens found in Hsin-an County, western Honan, and in T'êng County, southern Shantung, twenty from each place.⁵⁶ The American Numismatic Society has thirty cowrie imitations in its collection, some of which, according to

offer 𧇛. Composed of *po* 帛 and *pei* 貝 (cowrie) the character has been correctly identified by Kuo Mo-jo and other epigraphers with the character for "white cowries" discussed above (*op. cit.*, 144a). It is interesting to note that the state which offered 𧇛 as tribute was also situated in the south (in the middle Yangtze River valley). It was from the south that cowrie shells reached the Chou people.

The practice of exacting cowries from the southern states as tribute seems to have lasted for a long time. As late as 179 B. C. the Southern Yüeh state in present Kuang-tung province is recorded to have offered them as tribute to the imperial court of Han (*Han shu*, XCV, 28b).

⁵⁴ For examples see Kuo Mo-jo, *Liang Chou chin-wên-i s'ü ta-hsi k'ao-shih*, 25a and 28a.

⁵⁵ *Yung-lu jih-cha* (Coole 392), photostat ed., 10a, and *Yin-hsü ku-ch'i-wu pu-lu* (An illustrated catalogue of objects discovered in Yin-hsü), 1916, the first of the comments attached at the end of the catalogue.

⁵⁶ "Shina kodai no gaika nitsuite" (Regarding the cowrie money in ancient China), *Tōyō Gakuhō* 東洋學報, II (1912), 264-273.

Ramsden, belong to finds made at Tsinan, capital of Shantung province, and Chang-tê-fu, the present-day An-yang.⁵⁷ Ramsden gives Ying-yang in central Honan below the Yellow River as another source for some of the pseudo-cowries in this collection.⁵⁸ Nishimura Shinji and Okutaira Masahiro also report the discovery of such bone carvings at Yin-hsü.⁵⁹ Both the Museum of Far Eastern Antiquities in Stockholm and Mr. H. E. Gibson possess collections of imitation cowries whose provenance is unknown.⁶⁰

According to Lo Chên-yü, a stone substitute of a cowrie shell has been found in Yin-hsü.⁶¹ A number of stone cowrie imitations are said by Chêng Chia-hsiang⁶² to have been found in Ho-chien, central Hopeh, and also probably K'ai-fêng, eastern Honan. Gibson reports that he had a specimen made of "black stone."⁶³ In the collection of The American Numismatic Society there are three fine stone specimens.

A substitute made of another kind of shell, probably from fresh water, is said to have been discovered in Yin-hsü, An-yang.^{63a} The existence of cowrie imitations of such material is reported by Nishimura and Gibson.⁶⁴ Yin-hsü is also said to have yielded imitations made of "white marble,"⁶⁵ which may be identical with some of the stone imitations reported by other numismatists.

Cowrie imitations in bronze are comparatively rare; The American Numismatic Society has six specimens and the Museum of Far Eastern Antiquities has a few.⁶⁶ They are reported to have been found

⁵⁷ Ramsden, "Cowry Substitutes Used as Currency in Ancient China," *The Numismatic and Philatelic Journal of Japan*, III (1914), 17.

⁵⁸ *Ibid.*

⁵⁹ Shinji Nishimura, "Ancient Chinese Coinage and its Origin," *Canton*, I (1939), 4, p. 26.

⁶⁰ J. G. Andersson, *Children of the Yellow Earth*, 1934, 323. Gibson, "The Use of Cowries as Money during the Shang and Chou Periods," *Jour. N. C. B. Royal Asiat. Soc.*, LXXI (1940), 33—45, Plate C.

⁶¹ *Yung-lu jih-cha*, 10a.

⁶² "Shih-pei erh p'in" (Two specimens of stone imitation of cowries), *Ch'üan-pi (The Chinese Numismatics Bi-monthly)*, No. 8, 35.

⁶³ Gibson, *Ibid.*

^{63a} *Yin-hsü ku-ch'i-wu fu-lu*, illustration no. 21.

⁶⁴ Nishimura, *ibid.* and Gibson, *ibid.*

⁶⁵ Nishimura, *op. cit.*, 27.

⁶⁶ Andersson, *ibid.*

at Yin-hsü (An-yang, Honan), Tz'ü-chou (Southern Hopeh), Chêng-chou (southern Honan), and K'ai-fêng (central Honan).⁶⁷

Chêng Chia-hsiang mentions jade imitations on which he gives no particulars.⁶⁸ Nishimura mentions imitations of "semi-precious stone," clay and iron, apparently excavated in Yin-hsü.⁶⁹ It seems miraculous, of course, that such small objects of iron can have survived three thousand years in the soil. Gibson reports that he possessed imitations made of "a sort of quartz" and of ivory,⁷⁰ but does not state their provenance. Articles by Nishimura and Gibson are illustrated with imitations of "mother-of-pearl," "quartz," "semi-precious stones," "ivory," and "shell."

Of all the reported materials from which imitations of cowries have been made, it is only those of bone, stone, and bronze for which we can supply exact descriptions. The thirty bone imitations at the American Numismatic Society (cf. PLATE I, 4—7), originally in the Ramsden Collection, were described by H. A. Ramsden in his article "Cowrie Substitutes Used as Currency in Ancient China."^{70a} These may be divided roughly into three groups as follows:

1. Generally large and thick, the largest being 26 mm. in length. Somewhat lozenge-shaped. Convex surface. Roughly carved. One hole, either at center or close to one end. Horizontal nicks along ventral groove (sixteen being the largest number) reaching as far as edge of surface. Reverse side, unpolished. Color, dark green.
2. Average 19 mm. in length. Two holes symmetrically placed on reverse side. No horizontal nicks along ventral groove. Reverse, flat and polished. Colors, yellow and greenish gray.

⁶⁷ For Yin-hsü and Tz'ü-chou see *Yung-lu jih-cha*, 10a, and *Yin-hsü ku-ch'i-wu fu-lu*, first comment attached at the end of the work. For Chêng-chou and K'ai-fêng see Chêng Chia-hsiang, *Chüan-pi*, No. 8, 35. See also Okutaira, *Toa senshi*, II, 77b.

⁶⁸ Chêng Chia-hsiang, *Chüan-pi*, No. 8, 35.

⁶⁹ Nishimura, *ibid.*

⁷⁰ Gibson, *op. cit.*, Plate C.

^{70a} *The Numismatic and Philatelic Journal of Japan*, III (1914), 17.

3. Size about same as second group, largest being 22.5 mm. and smallest 17 mm. in length, but better carved and finished, and more realistic in imitation of a real shell. Oval in shape. Convex surface. With one exception, reverse is flat and polished. Edges along ventral groove curve slightly in resemblance of real shell. Horizontal nicks along ventral groove are short and resemble those of a genuine shell. Two round holes on reverse side. Colors range from yellowish white to brown, and from dark green to chocolate; white ones have patches of fresh green, possibly caused by contact with bronze vessels in which they may have been deposited.

Belonging to the third group of bone imitations are two found in a *lei* vessel which was unearthed at Yin-hsü according to Nishimura. His detailed observations on them are as follows:

One is nearly symmetrical and forms an oval shape with pointed ends. Either edge of the deep groove in the center is marked with thirteen horizontal nicks. The top side is convex and brown, but the reverse side is flat and smooth and somewhat lighter in color. The holes at either end together with the central groove probably served to string the shell to other things. The other imitation is nearly the same as the first, though a little longer and more slender. Its lower part is narrower than the upper part. The central groove, which is marked with oblique nicks on both edges, is also wider at the upper part. The color is light brown on the reverse side, and the pale greenish tincture at the base of the right side is probably due to a saturation of bronze rust. There are two holes in the back. The latter is on the whole nearer to the real cowrie shell, as it is 23 mm. long, 17 mm. wide and 6 mm. high, while the former is 21 mm., 18 mm. and 5 mm. respectively.⁷¹

⁷¹ Nishimura, *op. cit.* 26. His statement that one substitute is nearer to the real cowrie shell than the others because it is 23 mm. long is not correct. The size of the real shells varies considerably. In the collection of The American Museum of Natural History the

Certain cowrie imitations discovered in T'êng County in southern Shantung and described by Hamada Kosaku⁷⁸ also belong to the third group, characterized as they are by a realistic resemblance to real shells. Other specimens reported by the same scholar as discovered at Hsin-an in western Honan are roughly carved and have only one hole in the back. Because of the hole they may be considered as belonging to the third group of our classification also.

Summarizing the above descriptions we may outline the characteristic features of the three groups of the bone imitations of cowries as follows:

1. Roughly carved, somewhat lozenge-shaped, reverse not worked, one hole, large size.
2. Also roughly made, nearly oval-shaped, no horizontal nicks along the ventral groove, two holes, reverse flat and polished, medium size.
3. Finely and more artistically and realistically carved, polished on both sides, oval-shaped, two holes, smaller than Type One.

This general classification, however, is not intended to convey the impression that specimens within one group are the same in every aspect. As a matter of fact no two specimens have been found exactly alike in every detail. We group them together on the ground that their minor variations are comparatively insignificant as against the main features they share in common.

The three stone imitations at The American Numismatic Society, all of which are finely carved, measure 25 by 17.5 mm. (PLATE I, 8), 22 by 16 mm., and 23 by 17 mm. All are oval in shape with one end slightly narrower than the other as with the bone imitations of the third type. The surfaces are carved and polished, while the reverses are flat. The ventral groove of each runs across the whole surface,

largest specimen of the *Cypraea moneta* measures 43 mm. long, and the largest of the *C. annulus* measures 29 mm. long.

⁷⁸ Hamada, *Tôyô Gakuhô*, II (1912), 264—273.

with curved edges resembling those on a real shell. The incised nicks along the groove are horizontal or nearly so. There are two holes on the reverse side positioned at the tip of either end. In color, they are gray with a strong green tinge.

Chêng Chia-hsiang has published illustrations of two stone imitations in his possession, which differ greatly in workmanship. One appears to be finely carved, resembling very much the real shell, like the specimens at The American Numismatic Society, while the other is lozenge-shaped, without the central groove, and bears little resemblance to a cowrie shell.⁷³ Thus we find that stone imitations vary considerably in workmanship.

The American Numismatic Society has six bronze imitations, some of which were originally in the collection of H. A. Ramsden and have already been described by that numismatist.⁷⁴ All six are oval in shape. Excepting on one specimen (PLATE II, 1), one end is slightly narrower than the other (as with the bone and stone imitations). They are made from thin bronze plate, convex on their top side and concave on the bottom. Again with only one exception (PLATE II, 1) all have a central groove which, unlike those on bone and stone imitations, does not reach the ends. One piece (PLATE I, 9) lacks horizontal nicks along the groove, while on two others (cf. PLATE I, 10) the nicks are distinct. Two pieces (PLATE II, 2, 3) show gilt on their top surfaces. The sixth specimen differs from the others: It is thicker, lacks the central groove and horizontal nicks, but it has the two holes, one at either end. The six pieces measure 24.5 by 16 mm., 24 by 16 mm., 24 by 15 mm., 28 by 17 mm., 23 by 16 mm., and 25 by 18 mm.

Without a single exception, numismatists and historians who have written about the various imitations of cowries agree that they were used as money in ancient China, as real cowrie shells had been. They believed that the substitutes resulted from a shortage in supply of the real shells. As plausible as this opinion seems, it fails to take into account one very important factor, the wide difference in value of

⁷³ Chêng Chia-hsiang, *Ch'üan-pi*, No. 8, 35.

⁷⁴ Ramsden, *The Numismatic and Philatelic Journal of Japan*, III (1914), 16.

the materials from which the substitutes were made. Further, even among substitutes made of the same material there is a considerable range in quality of workmanship.

Let us consider bone substitutes, as an example. With the sole exception of Ramsden, who calls them "horn substitutes," all numismatists regard them made of bone, but of bone of unknown origin. Mr. A. G. Goodwin of the American Museum of Natural History in New York excludes the possibility that they are made of horn, because the structure of animal horn is not as hard and fine as that of our bone specimens. He was doubtful they were of a special kind of bone, for to distinguish one kind of bone from another when cut into such small pieces is practically impossible, especially for the average public which would have used them. In the opinion of Dr. Nils Nelson, also on the Natural History Museum staff, the colors of the bone imitations may not be original. More likely, they are the result of chemical reaction set up by contact with other material when buried underground. The green color was obviously produced by contact with bronze vessels.

We are thus faced with a question not raised heretofore. If the material of these imitations is ordinary bone, they could have been carved in great quantity without difficulty, and obviously they could not have been accepted as equal in value to the real imported shells. This would hold true in greater degree for imitations of such an inferior material as stone. It seems more likely that bone and stone substitutes for cowries were used either as burial money, as ornaments, or as magic objects by those who could not afford the real shells.

If substitutes had been used as money, they could not all have been in circulation simultaneously with real shells, for they could not have been regarded as equivalent to them. Adding to bone and stone substitutes those made of mother-of-pearl, jade and quartz, the situation is more complex still. In fact, it is so complex, that it is inconceivable they were all used as money, unless we assume that during the Shang and early Chou period there existed a complicated monetary system in which the real cowrie and each variety of its substitutes

had specific comparative values and definite rates of exchange. Such a condition, however, postulates a highly centralized governmental authority with full power both to issue and rigidly control money. Whether the courts of Shang and Chou had such power is a question. It was probably on account of these difficulties that Lo Chên-yü advanced the idea that substitutes were money of different times! According to him, the shell substitutes made probably of mother-of-pearl appeared first, and the substitutes made of bone and copper, the latter being the forerunner of the so-called *I pi ch'ien* or "Ant nose money," followed successively.⁷⁵ However, his chronological order does not include the substitutes made of other materials, and he is silent on the point whether the appearance of a new substitute means the replacement of the old. Like other numismatists, Lo Chên-yü also overlooked the problem of the relationship of the various imitations to the real shells, which remained in use throughout the entire period in which imitations were made. Lo's opinion is no more than a hypothesis which may prove untenable in the future. However, one of his points is worth noting, that the copper cowrie substitute is the forerunner of the so-called Ant Nose Money.

4. THE I PI CH'IENT (ANT NOSE MONEY)

PLATE II, 4—6

The *I Pi Ch'ien* (ant nose money), also known as *Kuei-lien ch'ien* (ghost face money) or *Kuei-p'ou ch'ien* (ghost head money), seems to be true metallic coinage.⁷⁶ Inclusion of it in the present section on non-metallic currencies is warranted only by the fact that this type of coin is the last of the imitations of the cowrie shell.

Ant nose money was never mentioned by Chinese historians until certain specimens discovered during the Sung dynasty came to the

⁷⁵ The first of comments appended in *Yin-hsü ku-ch'i-wu pu-lu*.

⁷⁶ Ever since their discovery in the 12th century these small bronze objects, generally known today as "ant nose money," have been regarded as money by numismatists and historians. Although this assumption lacks confirmation in the literary sources and corroboration by evidence other than the objects themselves, it appears plausible

notice of numismatists of that time. Its resemblance to the cowrie shell was recognized by Li Tso-hsien⁷⁷ in 1874, and this point, spread by Lo Chên-yü, became accepted by practically all numismatists. It was Hung Tsun, author of *Ch'üan chih* (Coin Catalogue), who, in his introductory section, first considered it to be real coinage. We learn from him that the term *I pi ch'ien* had become a popular designation for this money as early as the twelfth century.

The original meaning of the term, *I pi ch'ien*, is not known exactly. Ma Ang regards it as signifying "ant and nose money," not as "ant-nose money" as understood by many. It is his opinion that "ant" comes from the pictorial impression of the legend 𧈧 which looks like an ant and which appears on one group. "Nose" comes from that part of the legend 𧈨 which looks like a human nose and which appears on another group.⁷⁸ So far, this is the best interpretation, and may well be true. However, neither of these two terms was the original nomenclature, nor, strictly speaking, are they designations for this type of money.

The term "ghost face money" is not difficult to explain. The legend 𧈩, mentioned above, appearing on an oval convex bronze piece, has a strong likeness to a caricature of the human face of a kind that often strikes the Chinese as a representation of a being of the other world. The term "ghost head money" can be explained in the same manner.

Since Hung Tsun's time, more varieties have been discovered.

and acceptable. Kuei Fu 桂馥 (1736—1805), a famous philologist, disagreed. He read the legend on one group of this type of money as *hun-tien-shui* (discussed below, p. 78), and from this reading he inferred that these objects were buried to pacify water (quotations from him are found in the *Encyclopedia of Old Coins*, II, 19a—19b). As we have pointed out, his reading of the legend is not acceptable, and therefore his suggestion concerning the function of these objects, inferred from the reading, must be discarded. Reading the legend on another group of this type of money as *ssü* 𧈪, meaning "a grave" or "to dig a grave," Ch'u Shang-ling arrives at the conclusion that they were used in ancient times to be buried with the dead to ward off ants (*Chi chin so-chien lu*, Coole, 9, XVI, 6b.). However, both his decipherment of the legend on the objects and his explanation of their function are untenable.

⁷⁷ Li Tso-hsien, *Hsü ch'üan shuo*, ed. by Pao K'ang (Coole, 202), 1874, 8b.

⁷⁸ *Huo pu wen-ssü k'ao* (Coole, 222), 1924, 2nd reprint, IV, 20b.

Some bear the legend *chün* 𣎵, some *hsing* 𣎵, some *chin* 𣎵, and some 𣎵, this last being undecipherable. Ch'u Shang-ling quotes Liu Shih-lu, a noted numismatist, as having reported a seventh variety whose legend reads *t'ao* 陶,⁷⁹ of which we have seen neither an actual specimen nor an illustration.

Of the six known varieties, the legends of three are easily recognizable. They are mentioned above as *chün*, *hsing* and *chin*, meaning in modern nomenclature "lord," "go," and "metal" respectively. The decipherment of 𣎵 as 十化 (*shih-huo*) meaning "ten *huo*" is unacceptable, because the character supposed to be *huo* does not agree with the forms of this character in other coin inscriptions or in the inscriptions on bronzes of the Chou period, when these coins are said to have circulated.

For the legends of 𣎵 and 𣎵 various decipherments have been suggested. Numismatists have read the first one as *chin* 晉 (name of a state), or *k'u* 哭 (weep), or *tang-pan-liang* 當半兩 (equal to half ounce), or *hun-tien-shui* 昏墊水 (to pacify water), or *pei* 貝 (cowrie), or *chi* 𣎵 (small). For the second legend there are the suggestions of *ssü* 殯 (a grave), *tang-kuo-liu-chu* 當各六朱 (each equal to six *chu*), *yu-t'u-chih-pên* 有土之本 (the basis for possessing the land), and *lo-i-chu* 各(洛)一朱 (one *chu* of the city of Lo). It is not necessary to repeat the reasons for which these decipherments have been made. It seems equally unnecessary to dwell on the reasons why they are unsound. We may state, in short, that none of them are epigraphically or philologically sound. Of all of these readings, *chin* for 𣎵 and "one *chu* of Lo" for 𣎵 are regarded as the best. Judging from the way the inscriptions on the knife, the spade, and the *Yüan-chin* coins are made, 𣎵 seems to be a mint name or a serial character. This lends weight to its decipherment as *chin*. But this decipherment not only meets difficulties in ancient epigraphy, but also does not agree with the fact that this type of money has never been discovered in the territory of the state with this name. Nor is there a town or

⁷⁹ *Chi chin so-chien lu*, XVI, 6b. Also quoted by Kao Huan-wên 高煥文 (*Encyclopedia of Old Coins*, II, 19a) and Lo Chên-yü (*Yung-lu jih-cha*, 10a).

city with the name which is nearby places where they have been found.

The reading "one *chu* of Lo" does seem convincing, but epigraphically such a reading is unpermissible. What is supposed to be the lower component part (*k'ou* meaning "mouth") in the character *lo* is actually the outline of the hole of the coin. Even if it were a part of the character, it could not be read as the character for "mouth." "Mouth" in this form is not found in inscriptions on coins or bronzes of the Chou period.

The main features of this type of money have been described by Ramsden,⁸⁰ whose collection forms part of the collection at The American Numismatic Society. The Society has 121 specimens, all of which are of bronze, though some of them have been so oxidized that they appear to be of some kind of stone. They are oval in shape, their obverse being convex and reverse flat. All have a hole at one end, though on some the hole does not go completely through. The tip with the hole is slightly narrower, reminiscent of the physical appearance of the cowrie shell. The weights in grams of fifteen specimens in fairly good preservation are as follows: 3.03, 2.60, 2.62, 3.04,; 2.70 3.15, 3.05, 2.81, 1.78, 1.42, 1.40, 1.98, 4.30, 4.42, 3.72.

The provenance of ant nose money is widely spread. The best known finds are those made at the Ch'i-ssü-li village in Ku-shih County in southeastern Honan.⁸¹ Ch'u Shang-ling reports that in 1783 several thousands were unearthed during the digging of a canal in Shih-ku-t'an in Chiang-ning (modern Nanking).⁸² Liu Yen-t'ing is quoted as

⁸⁰ "Ant's Nose Money," *The Numismatic and Philatelic Journal of Japan*, III (1914), 139—140, 165—166.

⁸¹ This is said by a few numismatists to have been recorded in the *Ku-shih hsien-chih* (Local gazetteer of Ku-shih County). See *Encyclopaedia of Old Coins*, II, 19a and 19b. Chu Feng 朱楓, author of the *Ku-chin tai-wên hsü-lu* (Coole 255), has also made a statement to the same effect (*Encyclopaedia of Old Coins*, II, 18b). We have examined the 1786 and 1942 editions of the gazetteer and failed to find the record. As Chinese local gazetteers vary from one edition to another, it is quite possible that the discovery of the Ant Nose Money in Ku-shih is recorded in other editions and not in the two consulted.

⁸² Ch'u Shang-ling, *Chi chin so-chien lu*, XVI, 6a—6b.

saying that ant nose money was also found in Ch'ang-an (modern Sian) in Shensi.⁸³ Ch'in Pao-tsan records that some were found in a bronze *chüeh* vessel unearthed outside of the city wall of Suchou (T'ung-shan being its modern official name) in northern Kiangsu.⁸⁴ Ma Ang states that some have been seen in Szechuan.⁸⁵ Kao Huan-wên reports that thousands of them were discovered during railway construction in Honan.⁸⁶ Since his book was published in 1908, the railway must have been the Peiping-Hankow line which cuts through the central part of Honan Province in a north-south direction. However, the exact location of the site is not known. The most recent discovery reported was made in 1936 in Shou-chou, officially Shou County, in central Anhui Province. It consisted of about one hundred and twenty or thirty pieces stuck together in an almost unbreakable mass. A few pieces which were successfully broken off are reported to bear the legend 𠄎.⁸⁷

A study of their provenance reveals an interesting point, that, except for their discovery in Ch'ang-an and Szechuan, the reports of which are based on hearsay and consequently doubtful, ant nose money has been found at places well within the territory of the state of Ch'u of the Chan-kuo period (403—221 B. C.). Ku-shih is situated in the central area of the old state, and Shou-chou, then called Shou-ch'un, was its capital from 241 to 223 B. C. Suchou is the "eastern" part and Chiang-ning was in the "southern" part of the state. This suggests the possibility that ant nose money may have been a currency of the state of Ch'u.⁸⁸

⁸³ Hu K'un 胡琨, *Ch'ang-an huo-ku pien* (A catalogue of old objects obtained in Ch'ang-an), prefaced 1914, Preface.

⁸⁴ Ch'in Pao-tsan 秦寶瓚, *I-hsia lu* (Coole 226), 1903, III, Part 2, 2a—2b.

⁸⁵ Ma Ang, *Huo pu wên-tz'ü k'ao*.

⁸⁶ *Encyclopaedia of Old Coins*, II, 19a.

⁸⁷ Hamada Kosaku 濱田耕作, *Kôhogaku kenkyû*, Tokyo, 1940, 429—433.

⁸⁸ Even if the reports of the discovery of ant nose money in Ch'ang-an and Szechuan, which were outside of the old state of Ch'u, were reliable, they would not necessarily alter this assumption. The area of Ch'ang-an during the latter part of the Chou period was in the territory of the state of Ch'in, which bordered on Ch'u on its southeast, and had close relations with the latter. Szechuan, called Pa and Shu at that time, before it

The attribution of this money to the state of Ch'u has been suggested previously, though the suggestion was not based on a complete study of its provenance. Chu Fêng apparently reports the first discovery of "ant nose money" in Ku-shih, and he seems also to have first advanced the opinion that it was issued by King Chuang (613—591 B. C.) of the Ch'u state.⁸⁹ A popular belief recorded in the *Ku-shih County Gazette* says that the money was made by Sun Shu-ao, King Chuang's chief minister.⁹⁰ Both of these assertions originated from a statement in the *Shih-chi* to the effect that King Chuang regarded the money in circulation as too "light" and attempted to coin "big ones" to replace the "small (light) ones." This monetary reform aroused resentment among his people. On the advice of Sun Shu-ao, his minister, the king abandoned his reform and allowed the "small ones" to continue to circulate.⁹¹ Chu Fêng and the numismatists who follow his opinion obviously hold that the "ant nose money" must be the "small" coins referred to in the above story. There is no way, however, to prove that this identification is correct. Even if it were, the money could not have been issued by King Chuang or Sun Shu-ao, because, as the *Shih-chi* text shows, at the time when King Chuang became the king and Sun Shu-ao his minister, the "small ones" were already in circulation.

The money is not recorded in literary sources. The style of their legends, such as the *chin* and the *chiin*, suggests the possibility of their being late in date. The discovery of the money together with the round coin of the late Chan-kuo period, as reported by Ch'in Pao-tsan, tends to confirm this possibility. According to Ch'in Pao-tsan⁹²

was conquered by Ch'in in 316 B. C. seems to have been under the domination of Ch'u. In this case, too, close relationship between these two areas can be assumed. Therefore, discovery of money of Ch'u in these two areas is not a matter of impossibility.

⁸⁹ Chu Fêng, *Ku-chin tai-wên hsü lu*, quoted in *Encyclopaedia of Old Coins* II, 18b.

⁹⁰ See *Encyclopaedia of Old Coins* II, 19a. Terrien de Lacouperie follows this interpretation. See his "The Metallic Cowries of Ancient China," *Journal of the Royal Asiatic Society*, N. S. XX (1888), 428—439.

⁹¹ *Shih-chi*, CXIX, 1b.

⁹² Ch'in Pao-tsan, *op. cit.*, III, Part 2, 2a—2b and VIII, Part 1, 1a—2b.

sometime toward the close of the nineteenth century, a bronze *chüeh* vessel was unearthed outside of the south city wall of Suchou. A round coin and several specimens of "ant nose money" were found in the vessel. The round coin has a square central hole and no rim on its outer circumference, and in illustration measures 28 mm. in diameter. It bears a legend which reads *chung shih-erh chu* or "Weight, twelve *chu*," *chu* being the smallest unit of weight in the coinage of the time. This coin belongs to the very last type of round coin of the third century B. C. and is the direct forerunner of the Pan-liang coin of Ch'in issued after Ch'in unified China in 221 B. C. "Twelve *chu*" and "*pan-liang*" (1 *liang* equal to 24 *chu*) were different expressions common at that time for the same weight. Since the "ant nose money" was found together with this round coin, it seems to have been in circulation as late as the late third century B. C. The weight of the "twelve *chu* coin" is about 11 grams, a weight derived from that of the Pan-liang coin of Ch'in. Judging from the fact that in early coinage money was still largely a commodity rather than a token, and weight was still a criterion for its value, the light-weight "ant nose money" must have been an auxiliary currency to supplement the round coin in business transactions.

To summarize our observations we may say that the "ant nose money" seems to have been a currency of the state of Ch'u. The date of its first appearance is unknown, but it was likely still in circulation in the late third century B. C. In all probability it was an auxiliary metal currency supplementing the *Yüan-chin* of that state.⁹³ During the Chan-kuo period the territory of Ch'u expanded greatly to the north and northeast, annexing much of the territory where the spade coin, and the round coin which succeeded the spade, were the main currency. The conquest of this territory by Ch'u was, by natural assumption, followed by the introduction of the Ch'u money. Hence the discovery of the "ant nose money" together with non-Ch'u money (i. e., the round coin) in an originally non-Ch'u territory (con-

⁹³ For the *Yüan-chin* coins of Ch'u see Chapter VI.

quered by Ch'u in 261 B. C.). In the newly incorporated territory the money must have been used as an auxiliary currency, as it had been in its home domain.

5. P'ÉNG, THE MEASURE OF COWRIES

The unit for measuring quantities of cowrie shells as money was the *p'êng* 朋 whenever a unit was given. The only exceptions are in the inscriptions on an oracle bone cited above (p. 59) and on a Shang bronze vessel,⁹⁴ which record grants of "one hundred" and "six hundred" in one case and "two hundred" in another, as well as one Chou bronze inscription in which the cowries are reckoned by the *lieh*.⁹⁵ The *lieh* is a monetary unit which will be discussed later (see pp. 207—211).

In inscriptions on oracle bones, the pictograph of the character *p'êng* is written 𠄎 or 𠄏. On both Shang and Chou bronzes the latter form prevails with only minor variations in a few cases. The first form of the pictograph resembles a string of cowrie shells bent at the middle; it may well have derived from a necklace or other article of adornment which was made up of cowrie shells. It is presumed that when cowries came to be used as money, the unit in which they were reckoned as a medium of exchange was based on the original form in which they were used as ornaments.

Of the two forms of the character, 𠄎 is probably the original. The difference between the two must have been caused by the fact that inscriptions on oracle bones are incised. When making an incision, a straight line is much easier to execute than a curved one. Hitherto scholars have held that the character *p'êng* resembles two strings of cowries, hence the English rendering of the term as "double string" by Western scholars.⁹⁶ The character can be viewed as composed of

⁹⁴ Wu Ta-ch'êng 吳大澂, *K'ê-chai chi-hu-lu* (A collection of the ancient inscriptions of the K'ê-chai), 1896, VII, 4.

⁹⁵ Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, 1935, I, 60b.

⁹⁶ Such as Creel (*Birth of China*, 92) and Gibson ("Cowries as Money during the Shang and Chou Periods," *Journal of the North China Branch of the Royal Asiatic Society*, LXXI (1940), 40). Dr. R. S. Britton renders *p'êng* as "rope" as in the English expression, a "rope" of pearls. (*Fifty Shang Inscriptions*, 1940, 15).

two strings, but a more realistic hypothesis is that the "double string" is a single string curved at the middle with its pendent ends equal in length and with each end bearing an equal number of cowries.

In a purely imaginative interpretation, H. E. Gibson traces the origin of the character to the way cowrie shells were supposed to have been carried during the Shang and Chou periods. As reconstructed by him, they were strung on two cords each having ten shells. The two cords of cowries were then attached to the two ends of a stick held by hand in the middle.⁹⁷ This reconstructed picture of the way cowries were carried appears rather unrealistic; and it is obviously based on a notion derived from the later form of the character *p'êng* rather than from the original.

Earlier than Gibson, L. Wieger made the statement that "The cowries, current money of old China, are offered strung up, often in great quantities, as much as a man can carry with a pole."⁹⁸ Hence his rendering of *p'êng* as "man-load."⁹⁹ Although H. F. Bowker holds that Wieger's views should not be ignored,¹⁰⁰ we feel they are worth little serious consideration.

The use of the *p'êng*, rather than numbers, to measure cowries, strongly supports the theory that they were used as money during the Shang period. It is entirely unlikely that a set number of pieces should have become stipulated for such an ornament as a necklace. On the other hand, a real need to measure exact numbers of cowries would be present when they were being used as currency.

There are controversial opinions on the number of cowries constituting a *p'êng*. Commenting on a Chou ode which recounts a gift of one hundred *p'êng* of cowries, Chêng Hsüan (127—200 A. D.) renders the number as five.¹⁰¹ Wang Kuo-wei rejects this number as unacceptable and on the basis of other literary evidence concludes that one *p'êng*

⁹⁷ Gibson, *Jour. N. C. B. Royal Asiatic Soc.*, LXXI (1940), Plate VI.

⁹⁸ L. Wieger, *Chinese Characters, their Origin, Etymology, History, Classification and Signification*, 2nd print, 1927, 365.

⁹⁹ *Op. cit.*, 377.

¹⁰⁰ H. F. Bowker, "Cowries as Money," *The Coin Collector's Journal*, X (1943), 92.

¹⁰¹ *Shih ching*, X, 5a, note.

was made up of ten cowries, five on each string (correctly, on each end of the string). He regards Chêng Hsüan's number of five as being the amount on one end of the string, not the total number on both ends which constitute a complete *p'êng*.¹⁰² Kuo Mo-jo holds approximately the same opinion. He differs from Wang Kuo-wei only on the number in a *p'êng* when cowries were originally used as ornaments. At that time, he contends, one *p'êng* may have been made up of two, three or five. But he is inclined to accept Wang Kuo-wei's number of ten for the *p'êng* as the unit of cowrie shells after they had been used as money.¹⁰³ On the whole, Kuo Mo-jo's suggestion is very plausible. The *p'êng* as a form of the cowrie necklace or the like must be distinguished from the *p'êng* as the unit of the cowrie money. As Kuo Mo-jo has pointed out, in the former case a definite number in a *p'êng* is not essential, while in the latter case it is mandatory.

So far the discussion of the *p'êng* as the monetary unit of cowrie shells has overlooked one point which may be of some importance; that is, the standard size or weight of the ten pieces which made up the unit. Creel is of the opinion that, "These little shells are very much alike and there is every indication that one of them had the same value as another."¹⁰⁴ With this assertion he declares, "A string of cowries, containing a fixed number, was a string of cowries."¹⁰⁵ However, as we have already noted, the cowries excavated in China now in the possession of The American Numismatic Society vary in size. Those recovered from the Chou tombs in Hsin-chêng, as reported by Chin Yün-o, are also of different sizes. "The largest are more than one inch (Chinese) long, while the smallest are less than one inch."¹⁰⁶ Further, "big cowries" (*ta pei*) are mentioned in one bronze inscrip-

¹⁰² Wang Kuo-wei 王國維 (1877—1927), *Kuan-pang chi-lin*, in *Wang-chung-ch'iao-kung i-shu*, III, 17b—18a.

¹⁰³ Kuo Mo-jo, *Chia-ku wên-tzû yen-chiu* (Studies of the oracle bone inscriptions), 1931, I, section 10, "Shih *P'êng*."

¹⁰⁴ Creel, *Birth of China*, 92.

¹⁰⁵ *Ibid.*

¹⁰⁶ Chin Yün-o 靳雲鶚, *Hsin-chêng ch'u-p'u ku-ch'i p'u-chih hsü-pien* (A supplementary illustrated catalogue of the ancient wares unearthed in Hsin-chêng), 1923, illustration and note on cowries.

tion.¹⁰⁷ The American Museum of Natural History in New York City has in its collection a large number of the *Cypraea moneta* and *C. annulus* to which species the money cowries of ancient China belong. The largest of the former species is 43 mm. in length, and of the latter species 29 mm. The smallest specimens in both cases are less than 16 mm. It seems naive to assume that the ancient Chinese had regarded the cowrie shells of different sizes as of equal value. In 9 A. D. when the reformist emperor Wang Mang formulated his monetary system, which was intentionally modelled on the Chou tradition as he understood it, he proclaimed cowrie shells to be money too. His shell money was of four classes according to their size. The larger the size, the larger the value. The first class was 0.48 *ch'ih* or foot (110 mm.) long and over, the second class was 0.36 (82.8 mm.) and over, the third class was 0.24 (55.2 mm.) and over, and the fourth class was 0.12 (27.6 mm.). Those shorter than 0.06 (13.8 mm.) were not to be taken as money. In terms of the copper cash in circulation at the time, the values of the four classes of the cowrie shells were 216, 50, 30, and 10 respectively.¹⁰⁸ How much the Wang Mang system does reflect the old Chou traditions it is hard to say. But we may safely assume that during the Shang and the Chou periods one *p'êng* of large cowries must have been worth more than one *p'êng* of the smaller ones. The value of cowries as money presumably originated in their value as ornamental objects. As such the larger ones certainly are more attractive to the eye, and, if any magical effect was ascribed to them, the larger shells must have been deemed more powerful.

As to the actual values of cowries during the Shang and Chou times we have no information except for the cost of the *tsun* vessel made by Yüan, Lord of Chü. As noted above, the making of the vessel cost the noble fourteen *p'êng* of cowries. From the style of the expression of the inscription on the vessel, part of which reads, "Used ten *p'êng* and four *p'êng* of cowries," Wu K'ai-shêng regards it as of an early origin, similar to that on the known Shang bronzes. If it had been

¹⁰⁷ Yü Hsing-wu, *op. cit.* III, Part 1, 5a.

¹⁰⁸ Pan Ku 班固 (32—92), *Han shu*, XXIV, Part 2, 12b—13a.

later in origin, the part of the inscription quoted above would have been written as "Used ten and four *p'êng* of cowries."¹⁰⁹ If his judgment is correct, as we think it probably is, the vessel may be one of late Shang or early Chou.

Unfortunately, the present whereabouts of the vessel is not known. This deprives us of an important source of information from which we might have learned the approximate value of the cowries in Chinese antiquity. In his recent work, *The Bronzes of Shang and Chou*, Jung Kêng lists six *tsun* for the Shang period and two for early Chou. They vary in size, ornamentation and probably also craftsmanship. The largest is 1.21 Chinese feet high while the smallest is only 0.55.¹¹⁰

Although the exact value of cowries cannot be known, a general idea of their worth may be gathered from an examination of the bronze inscriptions in which grants of them are recorded. It is a well-known fact that no grant larger than ten *p'êng* is recorded in the inscriptions of the preserved Shang bronzes. The situation during the first 120 years of the Chou period is the same. Only from King Mu (trad. 1001—952 B. C.) on, larger grants appear. The smallness of the amount of the grants is an indication of the rarity and dearness of cowrie shells at the time. In the inscription of the *kuei* vessel made by Ling during the reign of King Wu,¹¹¹ the founder of Chou as a dynasty, Ling was granted ten *p'êng* of cowries together with "ten families of *ch'ên* (subjects) and one hundred *li* (slaves)." The grant of such a small amount as ten *p'êng* together with the grant of a large number of "subjects" and "slaves" indicates also the high value of the shells. The inscription on the *tsun* vessel made by Ch'ien during the reign of King Ch'êng,¹¹² son of King Wu, records that Ch'ien was granted five *p'êng* of cowries on the occasion when he had a fief bestowed upon

¹⁰⁹ Wu K'ai-shêng 吳闓生, *Chi-chin wên lu* (A collection of bronze inscriptions with comments), prefaced 1932, II, 20a.

¹¹⁰ Jung Kêng, *Shang Chou i-ch'i t'ung-k'ao* (The Bronzes of Shang and Chou), Peiping, 1941, I, 429-431.

¹¹¹ According to Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, I, 3 b.

¹¹² According to Kuo Mo-jo, *op. cit.*, I, 15 b.

him. The inscription on a *kuei* vessel made by Su during the reign of the same king¹¹³ records that Su was exempted from further military service and granted "cowries" for his contribution in the campaign against the Eastern Barbarians. However, the number of *p'êng* in the grant is not specified. Another minister who was exempted from military service is recorded in the inscription on a *ting* made by Kêng-ying during the reign of King K'ang (trad. 1078—1053 B.C.).¹¹⁴ It is also recorded that in addition to that great favor Kêng-ying was granted ten *p'êng* of cowries. Considering the circumstances under which the grants were made and the fact that the grants, however small in amount, were rewards to highly placed personages who had performed meritorious deeds, five or ten *p'êng* of cowries must have been something which could match the dignity of both the benefactors and the beneficiaries. Since the cowrie shells were still of considerable value even during early Chou, the generals who captured them in their military campaigns thought the event significant enough to cast bronze vessels in commemoration of the feat.¹¹⁵

In the course of time, the Chinese empire of the Chou period extended its borders further to the south and the southeast. This brought the Chou people closer to the areas where cowries were produced and to the sea coasts whence they were obtained. As a result their import and their supplies of the shells increased. This may account for the grants of cowries in larger amounts of thirty, fifty and one hundred *p'êng* as recorded in inscriptions of Chou bronzes from the tenth century on. The increase in the amount of reward as the result in the increase in supplies foreshadowed the gradual decrease in the value of the shells. The trend of decrease in value was likely to have continued. Therefore, at the beginning of our era, or in 9 A. D. to be specific, the official value for a shell of the size of, or smaller than, 13.8 mm. in length was worth only three of the "Small Coins" then in circulation. One of the size of, or larger than, 110 mm. in length was worth no

¹¹³ According to Kuo Mo-jo, *op. cit.*, I, 23a—24a.

¹¹⁴ According to Kuo Mo-jo, *op. cit.*, I, 43b.

¹¹⁵ For a few examples see Kuo Mo-jo, *op. cit.*, I, 25a and 28a.

more than 108.¹¹⁶ Four well preserved specimens of the "Small Coins" chosen from the collection of The American Numismatic Society measure 15 mm. in diameter and 1.5 mm. in thickness. Their weights range from 1.34 to 0.98 grams. The comparison of the size and weight of the "Small Coins" with the official value of the cowrie shell will give an idea of the worth of the shells in 9 A. D.

¹¹⁶ Pan Ku, *ibid.*

IV. THE SPADE COINAGE

I. THE ORIGIN OF SPADE COINAGE

The earliest Chinese coins recorded in ancient literature of which specimens are preserved are the *pu* 布 (spade) and the *tao* 刀 (knife).¹ The general belief is that the shape of the *pu* coin is derived from that of an ancient agricultural tool, which had probably already been in use as a medium of exchange.

Discoveries are known of agricultural implements of a shape similar to that of the *pu* coin. Kuroda Kanichi reports the discovery of a bronze agricultural tool (PLATE II, 7), hereafter designated as Tool Kuroda, in Chêng-chou, Honan.² He calls it a "bronze *p'ao*," but identifies it with the *ch'ien*. Obviously he regards *ch'ien* and *p'ao* as two names for the same tool. The Tool Kuroda has a socket which extends onto the blade a third of its total length. A ridge runs down the middle of the lower part of the socket to the center of the blade. The upper part or the shoulders of the blade is narrow and rounded while its foot or cutting edge is broad and angular. Kuroda specifically notes that the cutting edge of the blade shows traces of having been used (in weeding or digging).³ Converted into millimeters the measurements he gives for the tool are: length, 181.8; width of blade, 90.9; and thickness, 3.636. It weighs 97 Japanese *ryo*, or 363.75 grams. Kuroda further observes that it is 21.21 mm. longer than the largest spade coins illustrated in *Ku ch'üan hui*.⁴

In the collection of The American Numismatic Society there is an ancient Chinese farming tool (PLATE III), hereafter designated as

¹ *Yüan-chin* or "metal plate," the money of the state of Ch'u during the Chou dynasty, is not recorded in historical literature. For discussion of *Yüan-chin*, see pp. 180—186.

² Kuroda Kanichi 黒田幹一, "Shūdai no kinzoku kahei ni tsuite," (Coole JM-10, 0.), *Kōkōgaku zasshi* 考古學雜誌, XVI (1926), 138. ³ *Op. cit.* 139. ⁴ *Ibid.*

Tool ANS. It is of bronze and is entirely covered with an aged patina. It also has a socket obviously to accommodate a wooden handle. Like that of Tool Kuroda the socket extends onto the blade and reaches as far as a third of its length. A vertical ridge runs in the center connecting the socket and the blade. Judging from the fact that the ridge starts where the hole of the socket ends, the ridge must have been made for reinforcing the handle. Like the Tool Kuroda, ours also has a hole through the socket, which is triangular in shape and completely pierces it. As suggested by Mr. William L. Clark, Curator of Mediaeval and Modern Coins at The American Numismatic Society, this hole may have been prepared for the insertion of a metal wedge, a wooden pin, a thread, or leather strap to secure the wooden handle in the socket.

On the whole the tool appears rectangular. Its shoulders are square and thick, while its cutting edge is much thinner and somewhat rounded in shape. This must have been the result of long use, which is indicated by the fact that one side of the cutting edge has been worn off much more than the other. The measurements of the tool in millimeters are as follows: length, 123; shoulder width, 84; foot width, 85; thickness of shoulder, 3.5; thickness at foot, 0.5.

Nishimura Shinji^{4a} has illustrated two farming tools, which, he says, were "excavated in China." One of these is similar in shape to Tool Kuroda, the other (PLATE II, 8) hereafter designated as Tool Nishimura, which is longer, has slightly raised shoulders and a curved cutting edge which is slightly concave. The details of its surface are not clear in the reproduction. There appears to be a socket, though the outlines of that part of the blade are blurred. In all probability its structural features may be the same as those of Tool Kuroda and Tool ANS. Unfortunately, Nishimura does not furnish informative details, nor does he give measurements. In shape it differs markedly from both Tool Kuroda and Tool ANS in that its shoulders are raised and its cutting edge is concave. Although it

^{4a} Nishimura Shinji, "Ancient Chinese Coinage and its Origin," *Canton*, Vol. I, (1939) 34.

probably performed the same function as the other tools, it must be a variety from another locality and for that reason, might have a different or local name.

A comparison of the early types of the spade coins with these two types of the ancient agricultural tools reveals a striking resemblance between the money and the implement. The *Ku ch'üan hui* has a few wood block illustrations from drawings of the early spade coins, which are supposedly reproduced in original size. In volume *yüan*, pp. 12a and 13a—13b, there are two specimens (we shall designate them as specimens A and B respectively) which are not inscribed, a sign of early origin. As illustrated, both have a socket, which, like that on the tool, extends onto the blade and reaches about a third of the blade's length. The width of the shoulders is slightly narrower than that of the foot. The following are their measurements:

	Specimen A	Specimen B
Total length	158 mm.	135 mm.
Shoulder width	79	71.5
Foot width	93	84
Socket above shoulder	33	31

Specimen A resembles very much the "prototype spade coin" which was reported in the possession of the Imperial Museum of Japan and is illustrated by Irita Seizo in his article dealing with the origin of the shapes of spade and knife coins.⁵ (A reproduction of the illustration is found on PLATE V, 1). The design of this "prototype spade coin" resembles the features of the ancient tool in every detail. Its measurements, converted into millimeters are: total length, 160.59; shoulder width, 83.931; foot width, 98.475. Its socket (handle) is short, a feature in which it strongly resembles Specimen A. It differs from the latter only in the fact that the edges of the two sides of the blade curve inward and flare out slightly at the bottom.

⁵ Irita Seizō 入田 整三, "Tōfu no keishiki to sono kigen" (Coole, JM-10, k.), *Kōkō-gaku zasshi*, XV (1925), 402—412.

The American Numismatic Society has an early bronze spade coin (PLATE IV), which is in perfect condition save for three small holes which no doubt were incidentally perforated later. Its socket (hollow handle) is short like the one in the Imperial Museum of Japan. The length of the socket on the blade is extraordinarily long, reaching the center of the blade. Its shoulders, which are not round like those of Tool Kuroda, slant at the ends. Its foot (cutting edge) has two pointed tips, which constitute its unique feature. Otherwise, it looks like the other specimens described above. Its measurements are:

Total length	110 mm.
Shoulder width	60
Foot width	64
Socket above shoulder	20
Weight	105.1 grams.

The specimens recorded in the *Ku ch'üan hui*, especially Specimen A, may not have been made as coins. Considering their shape and their large size it is not impossible that they may have been made as tools. However, as the demarcation line between the tool and the coin which gradually developed from it is naturally obscure, any categorical definition as to their specific functions without actual examination of the objects is inadvisable. The specimen in The American Numismatic Society does not present these difficulties. The smallness of its body and the two extra pointed tips at its foot exclude the practicability of its use in the fields. There appears no doubt that it is one of the early, or prototype, spade coins.

As time went on, further changes in design and the size of this type of early Chinese coins occurred. Their size became smaller and smaller, and their body thinner and thinner (see PLATES VII—X for examples). Although they retain the socket, it no longer projects onto the blade but ends at the shoulders of the blade. The portion of the socket above the blade is short, whereas that of the coins is comparatively much longer and appears more like a handle. While the blade of the tool is thicker at its shoulders and thinner at its cutting edge (foot),

the blade of the coins is of the same thinness throughout. Thus, we see that the spade coins lost all of the functional features of the original spade.

Though the spade coins have functionally deviated from the original tool to a marked degree, their design faithfully preserves the appearance of the tool. All the hollow-handle spade coins bear three vertical lines on both sides. The central line is an imitation of the reinforcing ridge, and the two lines on its sides are reminiscent of the two edges of the extension of the socket into the blade.

This same observation holds true for the flat-shoulder-flat-foot hollow-handle spades (H. H. Spade II) as well as the raised-shoulder-pointed-foot hollow-handle spades (H. H. Spade I), both of which are early coins. The first type seems to be a direct descendant of the farming tools represented by Tool Kuroda and Tool ANS, while the second appears to be that of the tools represented by Tool Nishimura. Thus we may conclude that the *pu* (spade) coin of ancient China developed out of an agricultural tool from which its shape and design are derived.

Now we must try to explain why the coin was called *pu*. Since the coin designated as *pu* developed from an agricultural tool, it is natural to assume that *pu* must have been the name of this tool. *Pu*, however, is not found as a name for an agricultural tool in the literature of the Chou period. Apart from being a name for a money the term *pu* is used regularly to denote a textile. As has been admirably explained by Wu Ch'êng-shih, a famous scholar in Chinese classics, this textile, a material for everyday clothing, was made from the fibre of the *ké* plant and hemp.⁶ There is no reason whatsoever for *pu* as the name of fibre cloth to have become by semantic transfer the name for money.

Although we do not find *pu* as the name for an agricultural tool in the historical records, we do have the character *po* 鑄 used in this sense. In the Ch'ên-kung ode preserved in the *Shih ching* (Book of Odes) peasants are instructed to "prepare *ch'ien* and *po*" for their

⁶ Wu Ch'êng-shih 吳承仕, *Pu po ming wu*, 1930, la—3a.

work in the field.⁷ According to Hsü Shên of the first century A. D. "field tools" or "farming tools" were among the meanings for both the characters *ch'ien* and *po* in his day.⁸ His explanations are corroborated by Chêng Hsüan's (127—200) comments on the ode referred to above. Specifically Chêng Hsüan identifies *po* with *lu* 鋤, a tool for weeding. In the Liang-ssü ode, which is also found in the *Shih ching*, *po* is used to signify a weeding tool.⁹ As the implements which we have discussed above seem to be well suited for weeding we may justifiably identify *po* with the tool from which the *pu* coin developed. But why was the coin not called *po* rather than *pu* which is a different character? In this, as in many other instances in Chinese philology, we may find the answer by resorting to one of the basic principles of ancient Chinese linguistics: characters of the same sound can be used interchangeably.

Etymologically speaking, the character *po* 鑄 being signic-phonetic (the radical 金 for metal is its signic and 溥 or 甫 is its phonetic) is of late origin. Its early or original form is 甫 (pronounced *fu* today). The form of 甫 as it appears in the bronze inscriptions of the Shang and the Chou periods is reminiscent of the picture of the agricultural tool we have described.¹⁰ When later the character *po* was formed, 甫 became its phonetic, and consequently its basic component part. Because 甫 (𠂔) has 父 (𠂔) as its basic (phonetic) element and consequently is pronounced the same as the latter, 甫 could be replaced by 父. Thus we find that in the inscriptions on the early bronzes 甫 is actually used as a substitute for 父.¹¹ For the same reason, in the inscription of the Ch'u-kung Po, 鑄 is written 𠂔,¹² with 父 substituting for 甫 or 溥. As we know, 父 (𠂔) is also the phonetic of the char-

⁷ *Shih ching* (Mao Shih), XIX, 6b.

⁸ *Po* means also the ornamental carvings on the horizontal stick at the top of the bell. *Ch'ien* means also money. *Tuan-shih shuo-wên-chieh-tzû chu*, 1908, XIV, 3a and 4b.

⁹ *Shih ching*, XIX, 15a.

¹⁰ For the forms of the character in bronze inscriptions, see Jung Kêng, *Chin wên pien* III, 37b.

¹¹ So states Jung Kêng, *loc. cit.*

¹² Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi p'u-lu*, 1934, 177.

acter *pu* 布 (𦰩), the name of the spade coin as found in literature. The result is that *pu* could be used for 甫 the original form of the character *po*, the name of the agricultural tool. Even at a much later time, in the literature of the Han period, 甫 and 布 are still used interchangeably 𦰩, which is another form for 甫, in the *Shi-chi* is replaced by 布 in the *Han shu*.¹³ The name for door decoration is written 鋪首 and also 拊首.¹⁴ Here the “hand” (扌) radical in 拊 and the “metal” (金) radical in 鋪 are auxiliary component parts and are of little or no importance. Since *pu* 布 was used for 𦰩 (甫), it could and must have been used for *po* 鑄. As far as we can see, this is probably the way in which *pu* came to be a substitute for *po*, which was the name of an agricultural tool and must have been also the name of the coin that developed from such a tool.

It must be noted, however, that in the ode quoted above, *ch'ien* is mentioned along with *po*. There is no doubt that *ch'ien* was also a farming tool, which Chêng Hsüan in his comment on that ode identifies with *pao* 鋤. Etymologically speaking, *pao* is also a significant phonetic character, and therefore is late in origin. The character has the same basic structural part (兆) and the same sound as the character 珧, signifying “clam” or “clam shell.” In ancient China, the clam shell was also called *ch'ên* or *chên* 辰. In remote antiquity the Chinese are said to have “ground clam shells (*ch'ên*) with which they weeded.”¹⁵ For this reason both the character *lu* 耨, meaning “weeding tool” or “to weed,” and the character *nung* 農, meaning “farming” or “to farm,” have *ch'ên* as their fundamental component part.¹⁶ Thus the farming tool must have been also a tool for weeding. As the name of a weeding tool *pao* is found in many passages

¹³ *Shih-chi*, CXVII, 16a and *Han shu*, LVII, Part 1, 9b.

¹⁴ Hsü Shên states that 鋪 is the 拊首 attached to the door. (*Tuan-shih shuo-wé chieh-tzŭ chu*, XIV, Part 1, 7a). The *T'ung-su wén* 通俗文 states that the decoration of the door is called 鋪首 (*T'ai-p'ing yü-lan*, 1818, Pai ed., CXXCVIII, 4b). The latter term is also found in *Han shu*, 1644, XI, 5a.

¹⁵ *Huai-nan-tzŭ*, XIII, 1b.

¹⁶ For a fuller discussion of this problem see Kuo Mo-jo. *Chia-ku wén-tzŭ yen-chi*, 1931, II, 25a–26a.

in the literature of the Chou period.¹⁷ Since *pao* is identified with *ch'ien* by Chêng Hsüan, the latter is to be understood also as the name of a weeding tool.



What is perplexing is the fact that in the literature of or concerning the Chou period *ch'ien*, like *pu* (*po*), is also found to be a designation of certain money.¹⁸ As far as the coins (which are preserved by tens of thousands) show, the money referred to are the spades. Thus we find both *pu* (*po*) and *ch'ien* as appellations for spade coins.

How do we explain this seemingly confusing situation? In order to clarify the confusion in terminology, we must come back once again to the tools and the two different types of hollow-handle spade coins described above. In the description of the farming tools we have shown two different types. One type, represented by Tool Kuroda and Tool ANS, has either slanted or square shoulders and a flat foot (cutting edge). The other, represented by Tool Nishimura, has raised shoulders and a concave foot. The existence of the two different shapes of tools is paralleled by the existence of two different shaped hollow-handle spade coins which were developed from these tools. One type of the hollow-handle spade coins (designated as H. H. Spade I in the following text) is marked by raised and pointed shoulders and pointed feet (see PLATE VI), and the other (designated as H. H. Spade II) is characterized by flat or square shoulders and flat or mildly curved feet (see PLATES VII—IX). There is no indication or possibility that one type was a variety of the other. These two differently shaped early spade coins must have been local varieties developed from two differently shaped tools. This point is confirmed by the discovery of the ancient tools described above, whose characteristic features can still be seen in the designs of the coins. One type of tool must have been called *ch'ien* from which the spade coin designated as *ch'ien*

¹⁷ Practically all statements regarding the *pao* in Chou literature have been collected by Kuei Fu 桂馥 in his comments on the character in *Shuo-wên chieh-tzŭ i-chêng*, 1870, XLV, 14a—14b.

¹⁸ *Chou shu* 周書 quoted in the *T'ai-p'ing yü-lan*, CCMXXXV, 1b; *Kuo-yü*, III, 10b; *Han-fei-tzŭ*, 1875, XI, 9a; *Lü-shih ch'un-ch'iu*, 1875, XV, 3b; *Shih-chi*, III, 10b.

developed, and the other must have been called *po* (*pu*) from which the spade coin designated as *pu* developed. Only by such an understanding of the monetary terms, can we comprehend the statement of Ssü-ma Ch'ien that ancient Chinese coins, as far as the spades are concerned, "were either the *ch'ien* or the *pu*."¹⁹

To determine which type was the *po* (*pu*) and which the *ch'ien* is difficult. There is, however, indirect evidence which may be of some aid in solving the problem: the names and forms of the musical bells of the Chou period. The bells which are preserved are of two types which when viewed from the side appear in the shapes  and . They are designated as *chung* 鐘 and *po* 鐸 respectively.²⁰ The musical bell *po* may have been so called because of its resemblance to the farming tool *po*.

The distinctive features of the two types of spades attracted the attention of Ch'ên Chieh-ch'i, a noted numismatist of the last century who remarked that the spades with a flat foot are called *po* and that those with a pointed (or, in his words, "not flat") foot are called *ch'ien*.²¹ He also refers to the shape of the *po* bell as evidence. If Ch'ên Chieh-ch'i's observation is correct, then Tool Nishimura, from which the raised-shoulder-pointed-foot spades appear to have developed, must have been called *ch'ien*, and Tool Kuroda and Tool ANS, from which the flat-shoulder-square-foot spades appear to have been developed, must have been called *po*. It is significant that when the

¹⁹ *Shih-chi*, XXX, 21a.

²⁰ Both T'ang Lan and Kuo Mo-jo hold the opposite opinion. What we call *po* they call *chung*, and what we call *chung* they call *po* (see T'ang Lan, "Ku yüeh-ch'i hsiao-chi," *Yenching Hsüeh-pao* 燕京學報 No. 14 (1933), 82—83; and Kuo Mo-jo, *Liang-Chou chin-wên-tz'ü ta-hsi p'u-lu*, "T'u shuo," 4b—5a). Actually the appellations of the music bells has been a problem of uncertainty for many centuries. This uncertainty seems to have grown out of the confusion with which the terms were used when some of the late bells were cast. At this time the people appeared to have forgotten the original distinction between the two types of bells as implied in their two designations, *chung* and *po*, and some named the bells indiscriminately. This is probably the reason which led Jung Kêng to the conclusion that there are no differences between the *po* and the *chung* (*Shang Chou i-ch'i p'ung k'ao*, I, 495).

²¹ Quoted by Pao K'ang, *Kuan-ku-kê ts'ung-kao san-pien* (Coole 299), 1876, Part 1, 6a.

term *ch'ien* had become an exclusive name for money, the agricultural tool which probably was originally called *ch'ien* was designated solely as *p'ao*. At the same time the term *pu*, which was originally a borrowed character for *po*, a tool, became a special term for the spade coin. All indications point to the fact that because of the growing importance of the tool-money and because of the increasing deviation in their design from the original tools, there seemed to have been a tacit practice among the ancient Chinese to give these money types exclusive appellations. Thus *ch'ien* and *pu* became the conventional terms for the tool-money, and *p'ao* and *po* for the tools.²² In one case the tool was given a completely different name, and in the other the money appropriated the borrowed term, *pu*. In a way this terminological evolution for the spade coin illustrates the early history of Chinese coinage.²³

One more point can be noted in connection with the terms *ch'ien* and *po*. At the end of the Chou period, *ch'ien* seems to have been used

²² *Po* as an agricultural tool still appears several times in the *K'ao-kung chi*, the last section of the present text of the *Chou li*, which is most likely a work of the Chan-kuo period.

²³ There are two other explanations of the origin of the monetary term *pu*, which, however unconvincing, must be noted. One theory, advanced by two Japanese scholars, is that the term *pu* evolved from the name of the ancient Chinese ax, which is *chin* 鉞 according to Kuroda Kanichi (Kuroda, *Kōkōgaku zasshi*, XVI (1926), 141) and *fu* 斧 according to Tanaka Keibun quoted by Nishimura Shinji (*Canton*, Vol. I, 30). The reason Tanaka identifies *pu* with *fu* is that *fu* has a "common origin" with *po* 鑿, from which the *pu* coin developed. Nishimura's quotation of Tanaka's explanation may not have been sufficiently adequate. As it is, we cannot understand why Tanaka should approach the problem indirectly through *fu* to *po* and not directly as we have. What caused Kuroda to trace the origin of the term *pu* to *chin* is that the character *chin* appears in the legend on Old Spade coins (those coined after the hollow-handled spades). The difficulty with Kuroda's explanation is that philologically speaking *pu* has nothing to do with *chin* (ax), and he does not seem to have found it necessary to offer an explanation.

The other theory advanced by Cheng Chia-hsiang, a Chinese numismatist, in his article on the origin and evolution of monetary terms (*Ch'üan-pi*, No. 22, 6—9), is that the spade coin was named *pu* (which term he understands as cloth) because the royal treasury of Chou had collected cloth as its revenue. He concedes, however, that his interpretation has no bearing on the original name of the coin.

in a much broader sense than *pu*. While *pu* designates only the spade coin, *ch'ien* appears to denote money of all types, including the spade. On account of this, when the round coins appeared in the third century B. C. they were also called *ch'ien*, but never *pu*. Today, *ch'ien* is still being used to mean money in general.²⁴

2. THE DATE OF THE COINAGE

The dating of the beginning of Chinese coinage is one of the most controversial problems in Chinese numismatics. Ssü-ma Ch'ien (145—86 (?) B. C.) places its appearance as early as the legendary Yü and

²⁴ Related to the problems of early monetary terms is another controversial subject which deserves a few lines of mention, that is, which term is earlier, *ch'ien* 錢 or *ch'üan* 泉. The latter term means a fountain or a spring. As early as 9 A. D. the emperor of the Hsin dynasty, Wang Mang, had borrowed it and used it in the sense of money, and had had it cast in the legends on both his "Small Coin" and the "Big Coin," but the term had lost its literal usage with the end of his reign. Elder Chinese numismatists who seem to relish anything uncustomary (the term *ch'ien* has been used as the general term for money ever since the Chou time) prefer *ch'üan* to *ch'ien* as the name for old coins. Therefore, for the titles of coin catalogues we have *Ch'üan chih*, *Ku ch'üan hui* etc. But the novelty devised by Wang Mang has produced a belief in the mind of many that as a monetary term *ch'üan* might be older than *ch'ien*. Many Chinese numismatists, led by Li Tso-hsien, cherish this idea. A few others do not, and hence the endless debate, which lasts until today. Readers interested in this dispute can find information on it in the various works on Chinese coins, especially in the *Ch'üan-pi* (*Chinese Numismatics*, Nos. 4, 21, and 22). It is unnecessary to repeat the argument here. In our opinion the term *ch'ien* is earlier than *ch'üan*. The latter was first used by Wang Mang. *Ch'ien* was the name of an old farming tool from which the spade coin developed. It is only natural that the spades, at least one group of them or those in one particular region, were so called. It is true that the character *ch'üan* meaning money appears in the text of the *Chou li*, and this has been taken as a proof for its early origin. But, as Ting Fu-pao has pointed out, the character *ch'üan* in the *Chou li*, is a later revision made during Wang Mang's time (*Chinese Numismatics*, No. 4, p. 27), as in an older edition of the work which was seen by Cheng Chung (first century A. D.), the earliest known commentator of the *Chou li*, *ch'ien* is found in lieu of *ch'üan*. The reason Wang Mang adopted *ch'üan* for *ch'ien* was his dislike for the character *chin* (metal) which is the component part of *ch'ien* and *liu* 劉, the name of the ruling house which he usurped. Technically, *ch'üan* and *ch'ien* sound similar in their pronunciation (Liang Ch'i-ch'ao 梁啟超 (1873—1929) called attention to this many years ago in his article "Chung-kuo ku-tai pi-ts'ai k'ao," *Yin-ping-shih wên-chi* 1916, XX, 70), and this made it possible to substitute easily the former for the latter.

the semi-legendary Hsia dynasties.²⁵ Some Sung scholars attributed the spade coinage to even more remote pre-historical figures. Though modern numismatists and historians are more realistic, their opinions diverge considerably. Our own immediate concern is with the dating of the spades. Of the various theories advanced concerning them, the following may be regarded as representative.

1. Hsia and Shang dynasties (ending 1122 B. C., traditional date).

Among the modern numismatists Lacouperie appears to be of this opinion.²⁶ Though he does not categorically commit himself to such an early date for Chinese coinage, one gets this impression from his introductory remarks on spade coinage. As a specimen of the spade coinage of this period he gives a hollow-handle spade with raised or pointed shoulders and pointed foot.

2. Western Chou (1122—771 B. C.).

Numismatists and historians who subscribe to this opinion are many. Chêng Chia-hsiang may be taken as their representative.²⁷ He arrives at this date from three considerations. First, the Western Chou had already had a "fully developed governmental organization." "Because of the necessity to collect pecuniary fines and taxes, copper money was made." Secondly, the epigraphical style of the coin legends on the spades is that of the so-called "great seal character," which is the style of script of the Western Chou period. Thirdly, the money which was used during the Western Chou period was the *ch'üan* which were the spade and the knife coins.

3. End of the Ch'un-ch'iu period (770—481 B. C.).

Ojima Sukema may be regarded as the exponent of this theory.²⁸

²⁵ *Shih-chi*, *Pa-na* ed., XXX, 20b.

²⁶ See his *Catalogue of Chinese Coins*, London, 1892, 1.

²⁷ Chêng Chia-hsiang 鄭家相, "Shang-ku huo-pi t'ui-chiu" (An investigation into the monetary systems of ancient China), *Ch'üan-pi* (*Chinese Numismatics Bi-monthly*), No. 3, pp. 26—28.

²⁸ Ojima Sukema 小島祐馬, "Keizai-jō yori mitaru Shōsho no shokukei," *Shinagaku* 支那學 I (1921), 420—436, and "Shunshū jidai to kahei keizai," *op. cit.*, 539—545, 626—641.

His basic arguments are: (1) that the historical records of or concerning the Western Chou and the Ch'un-ch'iu period show that a natural economy prevailed at that time; (2) that literary sources show that a money economy did not develop until the Chan-kuo period (403—221 B. C.). The literary sources he used are *Tso chuan*, *Kuo yü* and *Chan-kuo ts'ê*. Though *Kuo yü* contains a story that King Ching of Chou made "big coins" in 524 B. C., he doubts its authenticity.

4. The Chan-kuo period (403—221 B. C.).

The scholar who holds this opinion is Li Chien-nung. In his article dealing with the development of the monetary system before Ch'in (221—207 B. C.)²⁹ he observes that as late as the Ch'un-ch'iu period the Chinese still practiced a barter economy or "exchange in kind." Therefore he states that spades and knives became circulating currency after the commencement of the Chan-kuo period. The historical materials which he used were those used by Ojima. He also rejects the story of the casting of "big coins" by King Ching as unhistorical.

The faulty logic of some of Chêng Chia-hsiang's arguments and his error in interpreting the meaning of *ch'üan* are obvious.³⁰ It may be mentioned in passing, however, that he is the only one of the above four who made use of any evidence from the coins themselves. Whereas Lacouperie used one coin specimen to illustrate his point, that specimen, being late in date, had no actual bearing on his theory. He and the others based their conclusions entirely on literary evidence.

Basically, the ancient historical literature of China is political in nature and is generally terse in form; it contains little regarding

²⁹ Li Chien-nung 李劍農, "Hsien Ch'in huo-pi chih-tu yen-chin k'ao" (A study of the development of the monetary systems of the pre-Ch'in period), *Shê-hui k'o-hsüeh chi-k'an* 社會科學季刊 (*Social Science Quarterly, National Wu-han University*), III (1933), 481—509.

³⁰ Li Chien-nung, 501.

contemporary economic life. It has not been completely preserved; what we have of it today is in fact only a small part. Therefore, any insistence on the non-existence of things unmentioned in such a limited amount of annalistic records is bound to be untenable, and, in many cases, untrue. For example, the Ch'u state of the Chou period was never reported as having money of its own. Today, however, we have *Yüan-chin* money which has been unearthed in central China.

In their use of the literary sources, the scholars have, moreover, failed to observe the rudimentary principle of first examining the nature of the data. Li Chien-nung states that he selected about eighty passages from the *Tso chuan* which refer to "forms of property" in none of which is there mention of either spade or knife coins.³¹ According to Li, twenty of these passages concern bribery, twenty-nine awards and gifts, nine offers in expectation of favors asked for, nine seizure of one noble's property by another, and seven wealth in general. Significantly, however, Li Chien-nung fails to note either the status of the men who are involved in the events or the nature of the events related in his passages. We may say briefly that the objects which he calls "forms of property" are limited to those which could be exchanged among the nobles as presents and the possession of which alone was regarded at the time as respected symbols of wealth. Thus the usual objects of the grants of the king to the feudal lords and the presents exchanged among the latter are jade, silk and silk embroidery, carriages and horses, slaves, gold. When the wealth of a noble is mentioned, it is expressed in terms of the number of horses and carriages he used in his equipage. How much money was in his treasury and how much grain in his granary were matters of secondary importance. The objects which one noble lord tried to seize from his rivals in war were territory, crops, weapons, war horses, and sacrificial bronze vessels — the symbol of the authority of a state. Jade has been mentioned as trophy, but it is always an important or famous piece, the possession of which

³¹ Li Chien-nung, 499—500.

has been too often a cause of conflict. Even as late as the Han time the imperial grants which were given actually in copper cash were usually expressed in terms of gold. To give money as a present is still frowned upon by the Chinese. Any suggestion that the objects offered as gifts in an aristocratic society are the only "forms of property" and thereupon that money does not exist is largely due to an inadequate understanding of the social and psychological aspects of the property valued by the nobility.

The *Tso chuan*, moreover, which is relied upon by both Ojima and Li Chien-nung as their authority for the denial of the existence of money during the Ch'un-ch'iu period is not completely devoid of the mention of the spade coin. A passage in the *Tso chuan*³² relates that in 517 B. C. the prince of Lu, Duke Chao, was forced to flee to Ch'i by three noble families who competed with him for power. In the next year, 516 B. C., Duke Ching of Ch'i tried to return Duke Chao to his state and instructed his minister Tzŭ-yu, who was to carry out the plan, not to accept bribery from the nobles of Lu lest the plan be sabotaged. Two officials from one of the three families which expelled Duke Chao promised Kao I, an assistant to Tzŭ-yu, generous political and property compensations if he could bribe and dissuade his superior from carrying out the order. Kao I showed the silk embroidery which he received from the emissaries of the noble family of Lu to Tzŭ-yu, and he desired to have it. Then Kao I said to Tzŭ-yu, "To buy this the Lu people pay one *pu* (spade coin) for one hundred bolts," indicating that the noble families of Lu could procure with ease (at a very low price) large quantities of the silk embroidery to be offered to Tzŭ-yu if he should help them realize their wishes. Kao I's statement in quotation marks is a verbal translation of the Chinese text, and the only acceptable one possible from the grammatical construction of the sentences and the meaning

³² *Tso chuan*, LII, 1b—2a. Legge, *Chinese Classics*, 1872, V, Part II, 712, 716. Instead of "Tzŭ-yü" 子猶 and "Kao I" 高崎 the *Shih-chi* has "Tzŭ-chiang" 子將 and "Kao Hè 高齧 respectively (XXXIII, 19a). The differences are probably due to copyist's mistakes, but which versions are correct is not known.

implied therein. While Hui Tung (1697—1758) and Hung Liang-chi (1746—1809), both of whom are famous scholars in the field of Chinese classics and history and have studied the *Tso chuan* in particular, agree with our interpretation,³³ Shên Ch'in-han (1775—1831) finds it objectionable on the ground that the price for the silk embroidery is too low.³⁴ He offers an interpretation in which the character *pu* means *tsu* (accumulation, pile). In the end this interpretation agrees with the one advanced by Tu Yu (222—284), who understands *pu* as meaning *ch'ên* (to display, to exhibit).³⁵ In his translation James Legge renders the passage thus, "the people of Loo (Lu) had bought such silk, made up in 1000 pieces."³⁶ This constitutes a third interpretation. But his translation does not agree with the Chinese text. Tu Yu and Shên Ch'in-han's explanation is unnatural and incongruous with the idea which the author tries to convey. The objection of Shên Ch'in-han to our interpretation would have some validity were it not for the fact that the question of price is not important. Understandably, Kao I's statement must have been grossly exaggerated in his eagerness to convince his superior that bribes could be provided easily and in large quantities.³⁷ In the text, "to buy (*mai*)" is the action, and "the spade coin (*pu*)" is the means with which the action of buying is consummated. The idea is clearly expressed. It is difficult to understand how Li Chien-nung, and for that matter, Ojima too, missed the passage.

If they have missed the mention of *pu* money in the *Tso chuan*, they should not have overlooked that in the *Li chi*, a Chinese classic. There *pu* money is mentioned in two passages as funeral gifts. These passages are found in the T'an-kung chapter which is an authentic his-

³³ Hui Tung 惠棟 (1697—1758), *Ch'un-ch'iu-tso-chuan pu-chu*, *Huang-ch'ing ching-chiai* (Hsüeh-hai-t'ang) ed., CCCLVIII, 2b; Hung Liang-chi 洪亮吉 (1746—1809) *Ch'un-ch'iu-tso-chuan ku*, *Ssü-pu pei-yao* ed., XVIII, 9a.

³⁴ Shên Ch'in-han 沈欽韓 (1775—1831), *Ch'un-ch'iu-tso-shih-chuan pu-chu*, *Ts'ung-shu chi-ch'êng* ed., X, 197. ³⁵ *Tso chuan*, LII, 2a. ³⁶ Legge, *ibid*.

³⁷ The numerals "hundred (*po*)" and "one (*i*)" in the text may be incorrect substitutes for "five (*wu*)" and "ten (*shih*)," as in the old script the latter two could be mistaken for the former two. In either case the price would be considerably reduced.

torical record for the Ch'un-ch'iu period. In both cases the authoritative Han commentator Chêng Hsüan (127—200) specifically notes that *pu* was money.³⁸ Judging from their failure to use these important historical data, we can but draw the conclusion that Ojima and Li Chien-nung have not exhausted the very source of information on which they have relied in their studies.

As a matter of fact the spade (*pu*) as money appeared in a much earlier record. The record is the ode of Mang in the *Shih ching*. In this ode a girl sings of her suitor

A simple-looking lad you were,
Carrying *pu* (spades) to exchange for silk.
But you came not so to purchase silk;
You came to make proposals to me.³⁹

In date this ode cannot be later than the sixth century B. C. The character *pu* in this ode is given by both Chêng Chung and Chêng Hsüan of the Han dynasty as meaning *pi* (money).⁴⁰ But some modern scholars, for reasons not specified, have disregarded these early commentaries and interpreted it as meaning "cloth." In their translations of the ode James Legge, Author Waley, and Bernard Karlgren express the same unwarranted opinion.⁴¹ Ojima and Li Chien-nung subscribe to this explanation, and use it to prove their thesis that at the time the ode was composed there existed an economy of "exchange in kind."

In the discussion above we have demonstrated that the term *pu* was used as a common noun for cloth or textile; it denotes, however, only the cloth made of grass fibre such as the *kê* plant and hemp. (See p. 94). Such cloth is inferior in quality and coarse in workmanship. If it is used as a denominative meaning a kind of textile as expressed in the term *tsui pu* (felt), it also implies an ordinary material. If the love-seeking boy who pretends to be a merchant

³⁸ *Li chi*, 1871, VIII, 1a and 16b.

³⁹ *Shih ching* (*Mao shih*), III, 11b—12a.

⁴⁰ *Ibid.*

⁴¹ Legge, *Chinese Classics*, 1871, IV, 97; Waley, *Book of Songs*, London, 1937, 96; Karlgren, "Book of Odes," *BMFEA*, No. 16 (1944), 190.

had brought cloth with him to exchange for silk, he could not have "carried it in his arms in front of his chest" as the verb *pao* implies. It would be not only cumbersome but also inconvenient to carry the large amount necessary to purchase a much finer and more treasured textile, silk. But if we follow the commentary of the Han scholars who were closer to the old tradition than modern scholars and understand the term *pu* as meaning spade coins, then there is no difficulty in understanding the verb *pao*.

According to Lo Chên-yü, an astute collector of archaeological objects and ancient coins, some of the unearthed hollow-handle spade coins which he saw were fastened together at their handles with a cord.⁴³ Kuo Pao-chün reports to the author that the hollow-handle spades which he discovered in the Chou tombs in Chi County, Honan, were also fastened together, though the number in a bundle varies. In actual use, the spades might have been kept together in the same manner. In a story recorded in the *Han-fei-tzŭ*, a woman in the state of Wei, where the ode of Mang originated, is said to have plead with Heaven that she be granted "one hundred bundles (*shu*) of spades (*pu*)."⁴⁴ This story implies not only that spade coins were bound together in actual use but also that there were a definite number in each bundle.

The modern scholars' unwarranted disregard for early commentaries and their misunderstanding of *pu* in these particular cases as meaning "cloth" is further illustrated by their explanation of a passage in the *Mo-tzŭ*. In this passage Mo Ti (480—390 (?) B. C.), a philosopher, is quoted as saying, "The gentlemen (*shih*) of today in making available their personal services take even less care than the merchants in putting to employment *i pu* (one spade)".⁴⁴ The meaning of the phrase *i pu* is so clear that no other interpretation is possible. However, unfamiliar with the ancient Chinese coinage and doggedly believing that the people of late Chou still used cloth as a medium of exchange, some modern scholars read *pu* in this passage

⁴³ Lo Chên-yü, *Yung-lu jih-cha* (Coole, 392), 17a—17b.

⁴⁴ *Han-fei-tzŭ*, 1875, X, 4b.

⁴⁴ *Mo-tzŭ*, *Ssŭ-pu pei-yao* ed., XII, 3a.

also as meaning "cloth." Equivocation may be tolerated in a direct quotation in Chinese of this passage, but in translating it into a foreign language such as English, one must be specific. Facing this difficult situation Yi-pao Mei interpolates the original text rather than seek for a correct interpretation; in his translation of the passage, he has inserted the word "bale" between the two characters of the phrase *i pu*, and rendered it as "one bale of cloth."⁴⁵

Taking the ode of Mang as our authority, we may say that, as far as literary information on the spade goes, the coin must have become an ordinary medium of exchange before the sixth century B. C. or earlier. But this date is not to be taken as the date of the commencement of the spade coinage which in all probability must have been much earlier.

In his statement on the early history of Chinese coinage Ssü-ma Ch'ien (145—86? B. C.), China's earliest great historian, says, "With the opening of exchange between farmers, artisans and merchants, there came into use money of tortoise shells, cowrie shells, gold, the *ch'ien* spade, the knives, and the *pu* spade. This has been so from remote antiquity."⁴⁶ A statement such as this is too general to be of any use for numismatists. In his historical account of the Chinese monetary system Pan Ku excludes the Hsia and the Shang periods for lack of information, and starts with the Chou dynasty.⁴⁷ He fails also to give any specific date. Since the Chou period covers some eight hundred years, it is too long a period to be spoken of in general terms. Stories such as those concerning Yü of the Hsia dynasties and T'ang of the Shang dynasty, who are said to have coined money in the second millenium B. C., lack historical authenticity and consequently must be discarded.

In the absence of literary information we must resort to archaeology which, unfortunately, for the reasons we have stated in the introduction, offers little help. The only spade coins which were scientifically recovered are those found by Kuo Pao-chün (See PLATE

⁴⁵ Yi-pao Mei, *The Ethical and Political Works of Motze*, London, 1929, 225.

⁴⁶ *Shih-chi*, XXX, 2, 1a.

⁴⁷ *Han shu*, XXIV, Part 2, 1a.

VII, 1). He dated the tombs in which these spades were discovered as of about 270 B.C. However, as Mr. Kuo points out, the spades found are apparently mortuary money especially made for the purpose of burial. They are extraordinarily thin, small and without legend (monetary spades of the same small size are of late origin and always bear a legend). As mortuary money they were not necessarily modelled in shape and design on contemporary money. More likely they represented a money of days long past like the paper horse-shoe silver burnt by modern Chinese on sacrificial occasions which imitates silver ingots long out of circulation.

Of the many thousand bronze inscriptions of the Chou period, we find three have the character *pu*. In one, the Shou-kung Tsun inscription, it appears as the component part of the term *tsui pu*, a felt made of animal hair. In the other two it appears as an independent term and may mean spade coins. One of these is found in duplicate on the body and cover of a *yu* vessel made by Yüan.⁴⁸ The other is found on a *tsun* vessel also made by Yüan.⁴⁹ With its first line lost the rest of the inscription varies only slightly in wording from the inscription on the *yu* vessel. There is no doubt that both the *yu* and the *tsun* vessels and the inscriptions thereon were made by the same Yüan as memorials for the same event. The inscription on the *yu* vessel reads:

In the nineteenth year, the King was in Han. Wang Chiang (the queen) ordered Scribe Yüan to pacify the ruler of the I (barbarians). The ruler of the I presented to Yüan cowries and *pu* as a gift. To show his gratitude to Wang Chiang's favor he (Yüan) made this precious vessel in honor of his father Kuei.⁵⁰

⁴⁸ Fang Chün-i 方濬益, *Chui-i-chai i-ch'i k'uan-shih k'ao-shih* (Studies of the inscriptions on the bronze vessels of the Chui-i-chai), Photostated, XII, 9b.

⁴⁹ Huang Chün 黃濬, *Tsun-ku-chai so-chien chi-chin P'u-lu* (Tsun-ku-chai illustrated catalogue of the bronzes), 1936, I, 36a.

⁵⁰ We follow the transcription of Kuo Mo-jo, *Liang Chou chin-wén-tz'ü ta-hsi k'ao-shih*, I, 14a.

Yü Hsing-wu, so far as we know, is the only epigraphical scholar who has commented on the character *pu*, and he lists two meanings for it, *p'i po* or "bolt of silk" and *pi* or "money."⁵¹ In Chou literature *pu* is susceptible to two explanations, cloth or spade coin, depending on the context. As a term for cloth it denotes the coarse cloth made of *kê* and hemp only. As late as the Han time it still denotes a cloth made of *i*⁵² which is hemp fibre.⁵³ Furthermore, in Chou bronze inscriptions the silk fabrics granted by the king or by a noble to his inferior are either called *ssü* (silk) or *po* (silk fabrics)⁵⁴ and nowhere are they called *pu*. We may, therefore, reject the interpretation of *pu* as meaning silk fabric.

Can we then regard the character *pu* in this inscription as signifying fibre cloth? This seems also unlikely. The inscription states clearly that the donor of the cowries and the *pu* is a ruler of a state even though the state is of a non-Chou origin⁵⁵ The recipient of the presents is a Scribe (*tso ts'ê*), who, as one in charge of composing and transmitting royal decrees, was an important official of the court of Chou. It seems rather improbable that the presents offered by a state's ruler to a high minister of the court of Chou would consist of ordinary fibre cloth. If it had been a special kind of cloth, worthy of conveying special respect and deserving special consideration, it would have been recorded by its special name. There seems to be no satisfactory interpretation other than the explanation that *pu* in this inscription means spade money. A present consisting of spades and cowrie shells, which were also money at the beginning of the

⁵¹ Yü Hsing-wu 于省吾, *Shuang-chien-ch'ih chi-chin wên-hsüan* (Shuang-chien-ch'ih selection of the bronze inscriptions), 1933, III, Part 3, 10a.

⁵² *Shuo-wên chieh-tz'ü*, VII, Part 2.

⁵³ *Ibid.*

⁵⁴ For examples see the inscriptions of the T'ung Kuei and the Shou-kung Tsun in the *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, II, 87b and 92b.

⁵⁵ *I* was the general designation of the Chou people for the Shang people and the peoples who lived in the eastern part of ancient China. See Fu Ssü-nien 傅斯年 "I Hsia tung hsi shuo," *Ch'ing-chu Ts'ai Yüan-p'ei hsien-shêng liu-shih-wu-sui lun-wên-chi* (Studies presented to Ts'ai Yüan-p'ei on his sixty-fifth birthday), Peiping, 1935, 1093—1134.

Chou period, makes sense. Furthermore, *pu* as a monetary designation for spades is borne out not only by the literary records but also by the legend on the Fên spades. The two known specimens of these are illustrated in Okutaira, IV, 52 b, and in Fang Jo's *Yüeh-yü ku-huo tsa-yung* (reproduced on PLATE XV, 2). Their legend reads *Fên pu* or "*Pu* of Fên." *Pu* here can refer to nothing else than the spade.

The date for this inscription or the vessel on which it is inscribed has been suggested by Wu Ch'i-ch'ang as the nineteenth year of King Chao,⁵⁶ the fifth king of Chou if we should regard King Wên as the titular founder of the dynasty. As Kuo Mo-jo has pointed out, the facts implied in the inscription, especially the name Chiang of the queen, do not permit such a date. Therefore he suggests the "nineteenth year" recorded in the inscription is that of the Chou as a dynasty (see below).

As students of ancient Chinese history all know, the chronology of early Chou, that is before 841 B. C., is very uncertain, and in fact has been a controversial topic ever since the Han time. The problem is too complicated even to touch upon here. Prof. Tung Tso-pin lists fifteen different authorities on the subject, who hold eight different opinions.⁵⁷ He himself is of the opinion that the Chou period officially begins with the following year after King Wu succeeded his father King Wên as the ruler of Chou in 1122 B. C. and actually begins with the year after King Wu conquered the Shang dynasty, which took place in 1111 B. C.⁵⁸ In the main he follows the traditional date. Dr. R. S. Britton told the author that as far as the records of the moon eclipses on the oracle bone inscriptions of the Wu-ting period go, Tung's date is untenable. He regards as more probable that the beginning of Chou was around 1027 B. C., which date has been suggested by Lei Hai-tung and B. Karlgren who base their opinion on the chronological record in the original

⁵⁶ Wu Ch'i-ch'ang 吳其昌, *Chin-wên li-shuo shu-chêng* (A study of the chronology of the bronze inscriptions), 1936, II, 30a.

⁵⁷ Tung Tso-pin 董作賓, *Yin li p'u* (Calendar of Yin), 1945, Part I, IV, 12a.

⁵⁸ Tung Tso-pin, *op. cit.*, 22b.

Bamboo Annals (*Chu-shu chi-nien*) and other relevant historical data.⁵⁹ For our present purpose we may follow the traditional date of 1122 B. C. as the beginning of the Chou period with the understanding that the correct date may be a century later.

In his study of the bronze inscription quoted above Kuo Mo-jo follows Wang Kuo-wei's chronology.⁶⁰ Wang Kuo-wei has proved that the recording of the chronology of the early years of Chou is not according to the reigns of the kings as is the case later. The recording of the year goes on with one serial number starting with King Wên's reign until the seventh year of the reign of King Ch'êng, the third king of Chou. In his opinion King Wên ruled seven years and was succeeded by King Wu who conquered Shang in the eleventh year of Chou or the fourth year of his own reign. King Wu was succeeded by King Ch'êng, whose reign officially begins in the fourteenth year. So calculated, the "nineteenth year" mentioned in the inscription falls in the sixth year of King Ch'êng's reign, which corresponds to the conventional date 1110 B. C.

The presentation of a gift of cowries and spades by the ruler of the I people to Yüan, the royal scribe, appears to have taken place either in Han or in its neighborhood. Kuo Mo-jo identifies Han with the original territory of Han Cho or Cho of Han, and located it within the boundaries of the present county of Wei in eastern Shantung.⁶¹ Both his identification and the location of the place

⁵⁹ Lei Hai-tsung 雷海宗, "Yin Chou nien-tai k'ao," *Wên-che chi-han* 文哲季刊 (Wu-han University), II (1931—2), 1—14. B. Karlgén, "Some Weapons and Tools of the Yin Dynasty," *BMFEA*, No. 17 (1945), 120.

⁶⁰ Wang Kuo-wei, "Chou k'ai-kuo nien-piao" (The chronology at the beginning of the Chou dynasty), *Kuan-p'ang pieh-chi pu-i*, in *Wang-chung-ch'iao-kung i-shu*, 4a—8b.

⁶¹ Kuo Mo-jo, *op. cit.*, 14a and 16a. The possibility that spade coins were used at a very early date in the general area around modern Wei county is evidenced by the existence of a Prototype Spade coin and several Hollow-handle Spades cast by the city or mint of I 𠄎 (PLATE X, 1). This I is identical with the I 𠄎 city which cast the round coins of four denominations at the end of the Chou period. The lower component part of the latter I is a later addition, the presence of which does not bring about any change in the meaning of the character. The I which cast the round coins has been located in present I-tu county whose county seat is about thirty miles west of that of Wei

are plausible, when we take into consideration the fact that by "I" the Chou people referred to all people in the eastern part of ancient China who were either Shang or their subjects. After the third year of King Ch'êng, the Chou court started a large scale military campaign against such eastern states as Yen and Po-ku, which were either of Shang people or their vassals. These states were located in present Shantung. The campaign, which lasted three years, resulted in the subjugation of those states. It is possible that at the end of the victorious campaign King Ch'êng was brought to the newly conquered territories to establish the Chou authority. This may serve to explain the statement "the king was in Han."

If all these interpretations are correct, the inscription has considerable importance in the dating of the spade coinage. For, if during the reign of the third king of Chou, which by the conventional chronology is in the last years of the 12th century, or, at latest, in the last years of the 11th century, spade money had been offered as a gift, the beginning of the coinage must have been somewhat earlier. This would lend credit to the hypothesis that spade coinage was a Shang invention.

In this connection we may introduce some records to the effect that the last Shang king had stored spade money at the Lu-t'ai, his treasury. The *Chou shu* (*Book of Chou*) states that when King Wu conquered Shang he took out and distributed among the people "the *ch'ien* (spade coins) of the Lu-t'ai" and "the grain of the Chü-ch'iao (a granary)" of the Shang king.⁶² Ssü-ma Ch'ien relates that Ti-Hsin, the last king of Shang "overtaxed [his people] to increase [the storage of] the *ch'ien* at the Lu-t'ai."⁶³ The distribution of *ch'ien* from the royal treasury of the Shang by King Wu of Chou is also

county in eastern Shantung. Some time after Chou conquered or subjugated this general area, it abandoned the spade coinage and adopted the knife coinage the origin of which took place probably in a state further to the east (see p. 156).

⁶² Quoted in the *T'ai-p'ing yü-lan*, photostat of the Sung edition in the *Ssü-pu ts'ung-h'an* ed. CCMXXXV, 1b.

⁶³ *Shih-chi*, III, 10b.

⁸ Monograph 113

recorded in several other old literary sources.⁶⁴ As has been explained before, *ch'ien* is but another type of spade money or another name for it. Historians have been duly cautious in not giving full credit to these statements, but, in view of the record of spade coins in the early Chou bronze inscription, they may well contain historical truth.

At this juncture we may recall that in the section dealing with the early history of trade in ancient China, we have noted that the Shang period may have witnessed considerable commercial activities. Under these circumstances, the coinage of a metallic money is not at all beyond possibility. However, we must repeat that our suggestion of the possible early Chou or late Shang origin of the spade coinage depends largely upon our interpretation of the character *pu* in the inscriptions on Yüan's vessels. We must safeguard ourselves against any definite conclusion based on a single piece of evidence, which may some day prove unacceptable.

3. THE VARIOUS TYPES OF SPADES AND THEIR CHRONOLOGY

Attempts have been made in the past by a few to trace the evolution of the various types of spade coins.⁶⁵ Their observations, however, have been too superficial to be of much value. Since scientific reports on discoveries of spade coins are lacking, a reconstruction of the evolution of their designs remains largely conjectural. We proceed with the conviction that the later the design of the coin, the less its resemblance to the original tool; and that the later the coin, the smaller its size and the lighter its weight. The gradual reduction in size and weight of coinage is a phenomenon common to the historical coinages of many peoples, and Chinese coinages could hardly have deviated from this law.

⁶⁴ In *Shih-chi*, XXXII, 3a—3b, *Lü-shih ch'un-ch'iu*, XV, 3b. In *Shih-chi*, IV, 12a and *Shang shu* (chapter of Wu-ch'êng, present text), III, 13a, the character *ch'ien* is replaced by *ts'ai* 財 meaning property, in general.

⁶⁵ For the opinions of these scholars see Irito Seizō, *Kōhogaku zasshi*, XV (1925), 402—412; Tsukamoto Yasushi 塚本 靖, "Shina Kosen keijo no kigen ni tsuite," *Kōhogaku zasshi*, XV (1925), 491-499; Kuroda Kanichi, *Kōhogaku zasshi*, XVI (1926), 138, and "Shūdai kohei ko," *Kōhogaku zasshi*, XVII (1927), 670—677; Okutaira, *op. cit.* I, 7a and II, 84b; Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu," *Ch'üan-pi* (*Chinese Numismatics*), No. 4 (1941), p. 30—31 and 32—33; and No. 5 (1941), p. 22—24.

A number of spade coins bear no legend, but many more do. Judging from their design and weight, we may say in general that those without legends are older, and that those with legends are later. Among the spades with legends, those having a numeral or a character from the "heavenly stems" (numbering ten in all) or the "earthly branches" (numbering twelve in all) as their mark, or "serial mark," are earlier than those which have the name of a mint and, as frequently, the name of the monetary unit and its denomination.

Epigraphical style can be resorted to as a means to determine the approximate time of the coin, but this is feasible only in the few cases in which the stylistic distinctions can be established.

It would be very helpful if we knew the dates of establishment of the towns which cast spades for which specimens are known. Of the many mints which appear in the legends only those of Tung Chou (Eastern Chou) and one of An-yang can be dated. The determination of the dates of their establishment contributes much to the dating of the coins of these two cities, and the dates of their coins corroborate our hypothetical premises for the reconstruction of the evolutionary stages of the spade coinage.

There are some mint towns, for which the date of their establishment or of their coinage is unknown, whose geographical location reveals the approximate time when they cast the spades which bear their names. Hsiang-p'ing in southern Manchuria and Lin on the Yellow River in Shansi are towns of this kind. A study of their coinage, which will be dealt with when the Late Spade is treated, also helps confirm our chronology.

The traditional classification of the spades which has been followed until recently by all numismatists has been based on their shapes with such terms as "hollow-handle spade" or "spade money," "pointed-foot spade," "square-foot spade," and "round-foot spade." Chêng Chia-hsiang and Okutaira appear to have found this classification inadequate. Therefore, in their works they have included the shape of the coin's shoulders as an additional criterion for classification. Thus they formulated such terms as "pointed-(or raised) shoulder-pointed-foot spade" and so on. Basically, however, they still follow

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the old method. Some Western numismatists have given certain spades a specific name such as "weight money." In this case again, the primary consideration is the coin's shape.

To numismatists who are historically minded, the traditional classification is inadequate and should be revised. In the present study we propose a classification according to the coin's chronology. Thus we may divide the spades into four major groups: the Prototype Spade, the Hollow-handle Spade, the Old Spade, and the Late Spade.

Within each group we may further divide the coins according to their design. This aims not only at differentiating fine distinctions within a major group and their possible chronological sequence but also at investigating the regional character of a particular type. For instance, in the group of the Hollow-handle Spades there are two types differing radically in design. Although these two types appear to have been in circulation at the same time, their different designs suggest that they circulated in different areas. This is confirmed by the location of their mints as will be pointed out later.

However, some words of caution must be added. First, the coin specimens preserved and reported today may not represent every shape or every variety of coin that has existed, though we believe that they represent the majority. It is on the basis of preserved varieties that this study is made. Secondly, though money itself has an inherent tendency toward uniformity in design, local varieties and local discrepancies in the time of adoption of a new design must be regarded as inevitable. This is especially true in a period, such as that of Chou China, when customs in general and political and economic institutions in particular vary from area to area. The following presentation will be better evaluated and understood with these considerations in mind.

A. Prototype Spade

Specimens of this group of spades are illustrated on PLATES IV—V. Their characteristic feature is a faithful resemblance to the original farming tool. Some of the coins are very large; some are a little

smaller. Some possess all the practical features of the tool; some preserve them less. The criterion for their classification as one group is that their socket is like the tool's socket and extends onto the blade with the reinforcing ridge at the lower end of the socket remaining unchanged.

Most of the coins of this group bear no legend, though a few do. Judging from their size and design, the ones with a legend appear to be little later than the ones without. The paleographic style of the legend is the same as that of the early Chou bronze inscriptions.

The specimen in the collection of the American Numismatic Society is the smallest of all the specimens of the group known to us. It weighs 105.10 grams.

B. Hollow-handle Spade

Belonging to this group are two distinctively different types. One type (PLATES VI and VII, 1) has pointed shoulders and pointed feet. Hereafter it will be designated as H. H. Spade I. The other type (PLATES VII, 2; VIII—X) has flat shoulders and mildly curved feet. Hereafter it will be designated as H. H. Spade II. The differences in their design are so marked and their affiliation to the original tool is equally so close that it does not seem to be possible that one type is a variation or a later development of another. As has been mentioned before, they seem to be two varieties of spade coinage developed from two differently shaped spade tools. The existence of these differently shaped tools is evidenced by the actual specimens excavated in China and by the fact that there were two different names, *ch'ien* and *pu*, for spade money in the Chou literature. (See pp. 90—93).

As implied in the term which we have chosen to designate this group of spades, their characteristic feature is the hollow handle which is found on each of them. The difference between the hollow handle of this group and the socket of the Prototype Spade, and for that matter also of the original tool, lies in the fact that the handle stops at the coin's shoulders and does not extend onto the blade. Their further deviation from the shape of the tool marks their lateness in origin and serves as a convenient criterion for their classification.

This group has the design of three parallel vertical lines on both obverse and reverse. The central line, which is shorter than the side lines, resembles the reinforcing ridge in the center of the tool, and the two side lines are the vestiges of the sides of the socket on the blade.

Most of the coins of this group bear an inscription, though quite a few do not. This is another evidence that they are later than the Prototype Spade but earlier than the spades which always have a legend. The legend may be a numeral, a character from the ten "heavenly stems" or the twelve "earthly branches," or the name of a town or city, which is likely to be the mint. As far as we know, among the hollow-handle spades which have been reported, those of Mi (PLATE X, 2) are the first ones in which the legend has the monetary unit *chin* in addition to the mint name. On the whole the paleographic style of the legend of the Hollow-handle Spade appears to be the same as that of the Prototype Spade, namely, the "great seal character" style.

It is to be noted, however, that among the Hollow-handle Spades there are still a third and a fourth type, both of which seem to be later in origin than the two types described above. In design, the third type (PLATES XI—XII, hereafter to be designated as H. H. Spade III) differs radically from H. H. Spade I and slightly from H. H. Spade II. Their principal distinctive feature is the fact that the three lines on their obverse and reverse are not parallel, but starting from the point where the handle joins the blade, the outer two lines diverge towards the tips of the feet. The Hollow-handle Spades of Tung-Chou (Eastern Chou), Lu-shih, Wu, Wu-an are commonly seen representatives of this type.

However, the designs of this third type are not homogeneous in all details. While the shoulders of the Eastern Chou spades are flat, those of the other three mints are slanting. While the outer of the three lines on these spades start from the center at the top of the blade and diverge to the tips of the feet, the three lines on the spades of other mints, such as "An -hsiang," run parallel and are symetrically placed. But their common features in design, size, and weight are such that a treatment of them as one type is warranted. All

indications are that this type, i. e., H. H. Spade III, is probably a later development of H. H. Spade II. The insufficiency in the number of preserved specimens prevent us from any definite conclusions on this point.

The fourth group (PLATE XIII, 1—2, hereafter designated as H. H. Spade IV) are very few in number. The *Encyclopedia of Old Coins* contains illustrations of two specimens (Nos. 608 and 813), which are the only ones known to us. The authenticity of No. 813 seems reliable; it was in the possession of Fang Jo, an astute collector, who made and published a rubbing of the coin. Both specimens are small in size. Their blades are somewhat square in shape, plain on both sides, with no design whatsoever. Both the shoulders and the feet are flat. The date of their origin does not seem to be earlier than H. H. Spade III.

The following chart will summarize the descriptions of the four types of the Hollow-handle Spade:

	I	II	III	IV
Handle (socket)	Stops at the shoulders	Stops at the shoulders	Stops at the shoulders	Stops at the shoulders
Shoulders	Pointed	Flat	Flat, slanting	Flat
Foot or feet	Two pointed feet	Foot mildly curved	Foot mildly curved	Flat foot
Width of shoulders and foot	Equal	Equal	Foot slightly broader	Equal
Designs	Three parallel vertical lines on both sides	Three parallel vertical lines on both sides	Central line vertical, side-lines diverging to tips of feet	None
Size	Large	Large	Small	Very small
Legend	Numeral, independent character, mint name	Numeral, independent character, mint name	Mint name	Mint name

The period in which the Hollow-handle Spades circulated appears to have been considerable. Together with the Prototype Spades they covered the greater part of the time span of the entire spade coinage. An evidence of this is found in the Hollow-handle Spades bearing the name "Eastern Chou."

Eastern Chou was a feudatory which was established in the last year of King K'ao (426 B. C.) or in the first year of King Wei-lieh (425 B. C.).⁶⁶ Thus the coins bearing the name of the feudatory must have been cast about 425 B. C. or shortly thereafter. At this time all feudal princes and the minor nobility had availed themselves of the privilege of coinage (see below, p. 224). There is additional evidence for a late date for the Eastern Chou spades. First, their legend does not consist merely of a numeral or "serial mark" but includes also the name of the mint. Secondly, the three lines in their design are not parallel as on H. H. Spade II (which resembles the features of the original tool) but diverge toward the tips of the feet. This deviation indicates a late appearance. Thirdly, the Eastern Chou spade is one of the smallest of the Hollow-handle Spades. The measurements of the rubbing of Fang Jo's specimen⁶⁷ are: total length, 70 mm.; shoulder width, 35 mm.; foot width, 37 mm.; blade length, 40 mm.

The largest specimen of the H. H. Spade II in the collection of the American Numismatic Society measures correspondingly 102, 53, 53, and 61 mm. This specimen is the older one not only because

⁶⁶ *Shih-chi*, IV, 32b—33a; Edouard Chavannes, *Les Mémoires Historiques de Se-ma Ts'ien*, Paris, 1895, 300—301. Many historians have mistaken the eighth year of King Hsien of Chou (367—6 B.C.) for the year of the creation of the Eastern Chou feudatory. Their mistake is caused by a misunderstanding of a passage in *Shih-chi*, XLIII, 17b, where it is recorded that the states of Han and Chao divided Chou into two parts, in the eighth year of King Hsien. This event refers to the separation of the royal domain of Chou into two areas under their separate influence, and it does not refer to the creation of the Eastern Chou feudatory. As far as we know, Lü Tsu-ch'ien 呂祖謙 (1137—1181) seems to be the only historian in the past who did not make this mistake (see his *Ta shih chi*, in the *Chin-hua ts'ung-shu*, I, 13b).

⁶⁷ *Yüeh-yü ku-huo ts'a-yung* (Coole, 290), the first specimen. Reproduced on PLATE XII, 3.

of its larger size but also because its legend consists solely of a numeral *pa* (eight). The Eastern Chou is considerably smaller in size and thus must be later, for the smaller a coin is, the later it is in date.⁶⁸

C. The Old Spade

The outstanding characteristics of this group of spades are the absence of the hollow-handle (socket), which are present in the two previous groups, and the split of the foot into two square feet. The representative specimens of this group are the spades of An-i (PLATES XIV, 4—5; XV, 1), Liang (PLATE XIV, 1—3), Chin-yang (PLATE XIII, 3—5), etc. They are called "weight money" by Western numismatists. They still have a handle, but it is no longer hollow; it is flat and solid. Changes have taken place in the shape of the shoulders: some of them are round, and some are angular. Except for the "regular" spades of Liang, the spades of this group all have two feet which are uniformly square. Some of the spades have a central vertical line on the obverse and some do not. In the latter case the space is completely occupied by the legend. The reverse of some of them is plain, and some have a character, which represents an abbreviation of the mint name in the obverse legend or indicates the nature of the money, such as *ch'ung* (token).

The appearance of the Old Spade was accompanied by an increase in number of denominations. The monetary unit of the spade is the *chin*. The old spades of An-i and Chin-yang are each made up of three different denominational sizes: two *chin*, one *chin* and half *chin*. For the spades of other mints which are preserved today, we

⁶⁸ In *Shan-chai chi-chin lu* (Coole 346), *Ch'üan lu*, I, 54b—55a, Liu T'i-chih 劉體智, the author reproduces a picture made from the rubbing of an extraordinarily large hollow-handle spade in his possession of the type of H. H. Spade III. In length it measures 164 mm., the width at its shoulders is 102 (including the two protruding points; actually only 88), the width at its foot is 102. So far this is the largest specimen reported of the late hollow-handle spade. Its legend reads "Lu-shih Nieh-chin" (dark metal money of Lu-shih). We have no way to determine its authenticity. If genuine, it would provide additional and important information on the monetary system of the day.

have only the two *chin* denomination (such as that of Ch'ui), or of the one *chin* and the half *chin* denominations (such as those of Yü), or of the one *chin* (such as that of Yüan), or of just the half *chin* (such as that of Lu-shih). Since, in both shape and design, the coinages of these mints belong to the same group as those of An-i and Chin-yang their complete denominational system must also have been the same. Otherwise the specification of "two *chin*," or "one *chin*" or "half *chin*" alone would be meaningless. The lack of all three denominations for these mints must be due to incompleteness in their preservation.

Mention must be made of the coinage of the Old Spade period in Liang. Besides its regular Old Spades of the type of An-i and Chin-yang, the mint cast also two special series of spades. One is designated as *chéng* or "standard," and the other is designated as *ch'ung* or "token" (PLATE XV, 3—5; XVI, 1). The shape and design of the "token" spades of Liang are exactly the same as those of its regular Old Spade and the Old Spades of other mints. Its "standard" spades vary slightly in shape, but their basic features are similar to the common features of the Old Spade. Both series seem to have been issued for interstate commerce. (See further discussion, pp. 137—143.)

As has been indicated, the legend of the Old Spade is made up of three items: the name of the mint, the monetary unit, and its denomination whenever the specification of the denomination is necessary. Only the old spade of Fên (PLATE XV, 2) varies from the rule. Its legend is *fên pu*, with *fên* being the mint name and *pu* the designation of the money. This is the first and the only case in which the monetary designation *pu* is found on a spade coin.

There is no positive evidence with which the date of the Old Spade can be determined. That it is later than the Hollow-handle Spade is unmistakable. Except for its general form, we do not find any of the significant features which mark the Hollow-handle Spade and which are reminiscent of the characteristics of the tool. As will be discussed below, the "Regular" and the "Token" spades of Liang (also known as Wei) appear to have been issued when

Liang, at the peak of its power, dominated Chou China. This period is roughly between 425 B. C. and 344 B. C. and may well be the time when the Old Spade was in circulation.

Judging from its shape and design the Old Spade seems to have developed out of H. H. Spade II and III. The shape of their shoulders and feet which is, as a rule, flat and angular or square are similar. H. H. Spade I with its sharply pointed shoulders and pointed feet does not appear to be its predecessor.

At this point one may question what happened to the coinage of H. H. Spade I while H. H. Spade II and III developed into the Old Spade. It would seem that the shape of H. H. Spade I continued to be the shape of the coinage in the region where it had been current while H. H. Spade II and III were under further evolution in design. Its size, however, must have been reduced and its weight diminished to meet changing circumstances. Insufficient information prevents us from forming a definite conclusion.

D. The Late Spade

The great majority of the spade coins preserved today belong to this group. They occupy the bulk of any collection, private or public, of Chou coins. According to shape and design they may be divided into four types:

Late Spade I—Pointed shoulders and pointed feet
(PLATES XVIII—XX; XXI, 1—6).

Late Spade II—Square shoulders and square feet
(PLATES XXI, 7; XXII—XXIV).

Late Spade III—Round shoulders and round feet
(PLATES XXV; XXVI, 1—2).

Late Spade IV—Round shoulders and round feet with three holes (PLATES XXVI, 3; XXVII).

A glance at the coins will convince us that Late Spade I developed out of H. H. Spade I, which have pointed shoulders and pointed

feet. Late Spade II descended from the line of the Old Spade of which the predecessor is H. H. Spade II. The origin of the shape of Late Spade III is more difficult to decide. It appears very much to have developed out of the shape of the "Regular" spade of Liang, (PLATE XV, 3), both of which belong to the Old Spade (earlier than Late Spade III) and have a round handle, round shoulders and round feet. It might have been an imitation of Late Spade IV which was the design of the official currency of the state of Ch'in and will be discussed presently.

For each of the types there are two sizes. The large-sized specimens in the collection of the American Numismatic Society weigh approximately twice the smaller ones. Some small-sized specimens of Late Spade I and II have specification of their denomination in their legend, which appears either on the obverse together with the mint name or on their reverse (for examples see PLATES XVIII, 2; XXII, 1). This is always the character *pan* for "half." The denomination of the larger size, which weighs twice as much as the small, must then be "one," referring to the monetary unit of the spade, the *chin*. Both the large and small-sized coins of Late Spade IV bear their denominational designations on the reverse (for examples see PLATES XXVI, 3; XXVII). The denominational designation of the large spade is *liang* (Chinese ounce), and of the small is "twelve *chu*" (*chu* being a very small unit of weight). Since at this time one *liang* was made up of twenty-four *chu*, the smaller coin is a "half" of the larger. Although different in size, the large and the small coins of each type have the same design. The characteristics of the types are shown in the chart on the opposite page.

An interesting phenomenon of the Late Spades is their lack of complete uniformity in design. Let us take the coins of Ta-yin as an example (PLATES XVIII, 1; XIX, 3). The spades of this mint are of the type of L. S. I, but a few have square shoulders instead of the predominating pointed shoulders. A few others have square shoulders and square feet. These exceptional shapes are obviously

Obverse

	L. S. I	L. S. II	L. S. III	L. S. IV
Handle	Square; two vertical lines converging on lower end	Square, one vertical line	Round, plain	Round, a hole
Shoulders	Raised & pointed	Square	Round	Round
Body	One vertical line in center, legend	Vertical line on handle continuing down through center, legend	Plain legend	Plain legend
Feet	Pointed	Square	Round	Round, a hole on each
Legend	Mint name or combined with the denomination	Mint name	Mint name	Mint name

Reverse

	L. S. I	L. S. II	L. S. III	L. S. IV
Handle	Square, one vertical central line	Square, one vertical central line	Round, plain	Round, a hole, a numeral (serial mark ?)
Shoulders	Raised & pointed	Flat and square	Round	Round
Body	Two parallel vertical lines on the sides	Central line on handle continuing down through body, two side lines starting from end of handle and diverging towards tips of feet	Two lines starting from end of handle and diverging towards tips of feet	Denominational specification
Feet	Pointed	Square	Round	Round, hole on each foot
Numeral mark or denomination	Most have a numeral in center or on side	Few have a numeral, placed the same way, some have a denomination	A numeral in center	A numeral on handle and a denominational specification on body

influenced by the shape of L. S. II. Although the forms of their shoulders and feet have changed, other features, however, remain.

Adoption by a mint of an alien coin type was one cause of the lack of uniformity in design. This is illustrated in the coinage of Chin-yang (PLATE XXI, 1,3). During the period of the Old Spade, Chin-yang cast the spade with square feet. There is every reason to expect that in the days of the Late Spade the mint would have cast Late Spade II, which developed from the Old Spade. Instead it cast the type of Late Spade I. Some other mints changed the shapes of their coinage once or twice within the same period. Thus we find Chung-tu cast both L. S. I and II. Towns such as Lin cast three types of the Late Spade.

The reasons for these changes in design may have been technical, economic, or political. During the Chan-kuo period in which the Late Spade circulated, the economic relations between different areas had become much closer. Active inter-regional trade leads naturally to constant exchange and assimilation of local customs and institutions. Coinage was likely to have been affected by this process of general cultural assimilation or borrowing. The replacement of one type of coinage by another, or the borrowing by one mint of the type of coinage of another, may have been a result of the superior economic influence of the latter.

Changes in coin type for political reasons may be detected in the coinage of An-yang. The An-yang spades in question belong to Type IV (PLATE XXVII, 2). Spades of this type uniformly bear the monetary unit *liang* on the large size and its half (twelve *chu*) on the small. This type of the Late Spade differs in its monetary unit from the other three types, for which the unit is the *chin*. Since it has a special unit, it must have been a spade coinage of a special area, which was most likely the territory of the state of Ch'in. The round coin of Ch'in which was issued after Ch'in unified ancient China and unified the monetary system is designated *liang*. The identification of the same monetary unit on coinages of consecutive periods indicates that they circulated in the same area.

To be sure, students of Chinese history will find three towns by the name of An-yang during the Chou period. One is mentioned by Li Hsien and others in their notes to a passage in the *Hou Han shu* (Book of Later Han) and is located by them in present southeastern Shantung.⁶⁹ A second, which was a town in the old Tai state in present northern Shansi, is recorded in the *Shih-chi*.⁷⁰ A third is also recorded in the *Shih-chi*, where it is stated that in 257/6 B. C., "After the Ch'in armies conquered Ning-hsin-chung, it was renamed An-yang."⁷¹ This An-yang was located southwest of the present city of like name in present northern Honan.

The first An-yang was located in the knife coinage area and cannot be the town which minted the spades. While both the second and the third are possibilities, we believe that the An-yang which cast the spades with round shoulders, round feet and three holes is the third An-yang, created by Ch'in in 257 B. C. We are led to this assumption by the fact that mints of this type of spade which have been deciphered and located were all situated close to the original territory of Ch'in. They are towns which were probably the first annexed by Ch'in in the course of its eastward expansion. It was probably after their conquest that Ch'in imposed on them its official coin type of round shoulders, round feet, with three holes.

Did Ch'in have an official type of spade coinage? The indications are that it did. In *Shih-chi*, VI, 50a, it is stated that in the second year of King Hui-wên (336/5 B. C.) the Ch'in "For the first time *hsing* money." In XV, 21a, in the chronological table for the Chan-kuo period it is stated under the same year, "The Son of Heaven (the Chou king) congratulated (Ch'in) for *hsing* money." Literally, *hsing* means "to put into usage or circulation." Scholars who argue for the late origin of metallic money in China have stressed these records beyond their proper limits. Their amplification of the significance of these data to be indicative also of other regions of ancient China is highly questionable, for we know that the spade

⁶⁹ *Hou-Han shu*, 1643, XXCII, Part 2, 2b.

⁷⁰ *Shih-chi*, XLIII, 27b—28a.

⁷¹ V, 34a.

coinage had begun as early as the early Chou. At that time the territory of Ch'in was the center of the Chou royal domain. The discovery of the hollow-handle spades in the area⁷³ is an indisputable proof. It may be possible that the Ch'in people, who came from the west with a comparatively backward economic tradition, had discouraged the use of metallic money, but how far this held true of the actual situation is a question. The "putting into circulation the money" in Ch'in in 336 B. C. appears to be more like the establishment of an official currency with the implication of a state monopoly in coinage. This might have been the policy which heralded the unification and state monopoly of coinage on a national scale in 221 B. C. after Ch'in conquered the whole country. Judging from all the indications, this official type of currency seems to be that with round shoulders, round feet, with three holes. The establishment of an official type of currency was possible in a state which was as centralized as Ch'in was in 336 B. C. If this assumption and the assumption that the spade money of Ch'in was the Late Spade IV is correct, we may say the commencement of this particular type of Late Spade III was in 336 B. C.

The date for the Late Spade can also be gauged from the coinage of Lin of Type III, which mint had also cast Types I and II. In and before the fifth century B. C. the area in which Lin of a later date was located was still occupied by the Ti people, not by the Chinese. According to King Wu-ling of Chao (325—299 B. C.) to which Lin belonged, Lin was conquered and annexed by one of his ancestors.⁷³ This event must have taken place after the Chao state was officially created in 403 and before King Wu-ling became the ruler of the state in 325 B. C.⁷⁴ That is to say that Lin as a mint of the Late Spade came into being only after 403 B. C. The commencement of its coinage may well be in the fourth century. In other words, the appearance of the Late Spade III of Lin cannot be earlier than 400 B. C.

⁷³ Lo Chên-yü, *Yung-lu jih-cha* 11a.

⁷³ *Shih-chi*, XLIII, 21a.

⁷⁴ According to *Shih-chi*, XLIII, 19a, Ch'in seized Lin from the state of Chao in 328 B. C.

As we know, between the termination of the spade coinage and the unification of the Chinese monetary system in 221 B. C. there was a period in which the round coin was the currency. In view of the fact that the round coins which are preserved or discovered are exceedingly few in comparison with the Late Spades, it seems that the period of the round coinage of Chou was very short. If we give twenty or thirty years for the period, we will have the year 250 B.C. as the approximate date for the end of the spade coinage. Thus, on the basis of all evidence available we get the following chronological order for the spade coinage:

Prototype Spade	End of 12th or 11th century B. C.
Hollow-handle Spade	ca. 400 B. C.
Old Spade	400—340 B. C.
Late Spade	340—250 B. C.

This chronology reveals that the later the type of coin appeared, the shorter the period in which it was in circulation, and the faster it was replaced by newer types. The change of the types, or in other words, the adoption of new types, is accompanied by gradual reduction in size and weight and by the tendency to adopt more convenient forms of money.

4. THE REGIONAL DISTRIBUTION OF THE SPADES

Both the provenance of the spades and the locations of their mints demonstrate that the spades were a coinage of a special region in ancient China.

In 1942 Chêng Chia-hsiang published a prefatory article to a study of inscriptions on ancient Chinese coins, in which he says that he has collected 244 different characters appearing on spade coins alone.⁷⁵ Judging from the average inscription on spade coins, at least eighty per cent of these, or about 195, must be names of mint towns. Many of the names of the mint towns, however, consist of two characters, and

⁷⁵ Chêng Chia-hsiang, "Ku huo wên-tzŭ hui-pien tzŭ-hsü" (Preface to a collection of inscription characters on old coins), *Ch'üan-pi*, No. 11, (1942), 42.

these mint names account for two thirds of the total. Thus the actual number of mint names would be no more than 140. We have ourselves collected 147 names of mint towns on spade coins in the collection at the American Numismatic Society, supplemented in some cases by those in coin catalogues published before 1939. Because of the difficulties mentioned in the introduction, not all of these names have been satisfactorily deciphered or located. The following table contains the names and locations of eighty-seven mint towns. The name of the mint is given in the first column of the table. In the second column is noted the name of the state to which the mint belonged or in which it was located during the Ch'un-ch'iu period (770—481 B. C.). In the third column is found the name of the state or names of states to which the mint belonged during, or in greater part of, the Chan-kuo period (403—221 B. C.). In cases where the name of a mint is found to be that of more than one town with simultaneous existence in one state or in different states, and the identification with a particular town is thus impossible, all the possibilities will be found noted in the table. (Table see p. 131-135)

The eighty-seven mint towns included in the above table should prove a sufficient number to show the geographical distribution of the towns which minted spade coins. In the Ch'un-ch'iu period, these mints were located in the royal domain of Chou and in the states of Yen, Chin, Chêng, Sung, Lu, Wei and other minor states. None was located in the states on the Shantung Peninsula (notably Ch'i, An-yang, etc), or in the present Hupeh Province, the original territory of the state of Ch'u.

The regional character of the distribution of the spade coins is further corroborated by their provenance. Hollow-handle Spades of various descriptions are reported to have been discovered in "Chung-chou" (Honan Province) by Li Tso-hsien, Pao K'ang, Ch'u Shang-ling and Ch'in Pao-tsan, in "Pien-chung" (Kai-fêng) by Li Tso-hsien, in "Tsê-chou" (Chin-ch'êng in S. E. Shansi) by Pao K'ang, in "Lo" or "Lo-chung" (area around Lo-yang in N. Honan) by Fang Jo, in Mêng-chin (N. Honan) by Ch'u Shang-ling, in "Kuan-chung"

Mint	Location, 770-481 B.C.	Location, 403-221 B.C.	Modern location	Type of Spade cast by the mint
An-i 安邑	Chin	Liang (Wei)	S. W. Shansi	O. S. (Old Spade)
An-yang 安陽	Chin?	Chao	N. Shansi	L. S. (Late Spade) II
	Wei?	Ch'in (since 257 B. C.) Pro Chao	N. Honan	L. S. III
An-yin 安陰			N. Shansi	O. S.
Ch'ang-tzū 長(郎)子	Chin	Chao, Han	S. E. Shansi	L. S. II
Chêng 鄭	Chêng	Han	C. Honan	L. S. II
Ch'êng 成(成)	Lu	Ch'i (since 408?)	W. Shantung	H. H. S. (Hollow- handle Spade) II
Chai-yang 宅陽		Liang	N. Honan	L. S. II
Ch'i 祁	Chin	Chao	N. Shansi	H. H. S. II; L. S. II
Chih 智	Chin	Liang	S. W. Shansi	H. H. S. II
Chih 智	Chin	Chao?	S. Shansi	O. S.; L. S. II
Chin-yang 晉陽	Chin	Liang	S. W. Shansi	O. S.
Ching 京	Chêng	Chao Han	C. Shansi N. Honan	L. S. I O. S.
Cho 涿	Yen	Yen	N. Hopeh	L. S. II
Chou 周	Chou		E. Shensi	H. H. S. II
Chu 朱	Chu	Chou Ch'u	N. Honan S. W. Shan- tung	H. H. S. II
		Han & Liang (361)	E. Honan	L. S. II
Ch'ui 垂	Sung	Liang	E. Honan	H. H. S. II; O. S.; L. S. II
Chung-tu 中都	Chin	Chao	C. Shansi	L. S. II

9*

Mint	Location, 770-481 B.C.	Location, 403-221 B.C.	Modern location	Type of Spade cast by the mint
Chung-yang 中陽	Chin	Chao or Li- ang	S. W. Shansi	L. S. II
Fên 分	Chin	Chao or Li- ang	S. Shansi	O. S.; L. S. I
Fêng 鄆	Chou or Sung	Ch'in or Sung & Ch'u	E. Shensi or N. Kiangsu	L. S. II
Han-tan 邯鄲(甘丹)	Chin	Chao	S. Hopeh	H. H. S. I; L. S. I
Hao 高(鄣)	Ch'in	Ch'in	C. Shensi	H. H. S. II; L. S. II
Hou 侯(侯)	Chin	Han or Li- ang	N. Honan	H. H. S. II
Huo (as al- ternative of 鄣 Hao)	Chin	Chao	S. Hopeh	
Huo 鄣	Chin or	Chao or	S. Shansi or	L. S. I
Hsi-tu 霍(藿)	Chou Chin?	Han Chao	C. Honan C. Shansi	L. S. II
Hsia-pi-yang 西都		Han?	C. Honan	L. S. III
Hsiang 下邳陽	Chou or	Liang or	N. W. Honan	H. H. S. II
Hsiang-p'ing 襄平	Chêng? Yen	Liang? Yen	E. Honan S. Liao-ning	L. S. II
Hsiang-yüan 襄垣	Chin	Liang	S. E. Shansi	L. S. II
Hsin (5) 莘(郚)			All in spade coin area	L. S. II
Hsin-ch'êng 新城 (7)			All in spade coin area	L. S. I; L. S. II
Jang-yin 漳陰	Chin	Han?	S. E. Shansi	L. S. II
Kao-tu 高都	Chin or Chêng	Liang or Han	N. Honan N. W. Honan	L. S. II

Mint	Location, 770-481 B.C.	Location, 403-221 B.C.	Modern location	Type of Spade cast by the mint
Kê 鬲			N. W. Shan- tung	H. H. S. II
Kuai 號 (郛)	Kuai & Chin	Han	N. W. Honan	L. S. I; L. S. II
Kung 共	Wei	Liang	N. Honan	O. S.
Kuo 戈, 邲	Sung	Ch'u	E. Honan	H. H. S. II; L. S. II
Lai 來, 邲	Sung	Ch'u	E. Honan	H. H. S. II; L. S. II
Li-shih 離 (萬) 石		Chao	W. Shansi	L. S. II; L. S. III
Liang 梁		Liang	N. E. Honan	O. S.; L. S. II
Lin 蘭 (閼)		Chao	W. Shansi	L. S. I; L. S. II; L. S. III
Liu 留	Sung	Ch'u	N. Kiangsu	H. H. S. II
Lu 露 (零)	Chin	Han	S. E. Shansi	L. S. II
Lu-shih 盧氏		Han	W. Honan	H. H. S. III; O. S.; O. S. II
Lu-yang 魯陽		Ch'u	C. Honan	H. H. S. III; O. S.
Lü 呂	Chin	Chao	S. Shansi	H. H. S. I
Mi 費 (郛)	Lu		S. W. Shan- tung	H. H. S. II
Nieh 涅	Chin	Liang	S. E. Shansi	O. S.; L. S. II
Ning 寧, 甯		Liang	N. Honan	O. S.
Pei-ch'iu 涇邱 (貝丘)		Ch'i	N. W. Shan- tung	L. S. II
Pei-ch'ü 北屈	Chin	Liang	S. W. Shansi	L. S. II
Pei-tzü 北茲	Chin	Chao	S. Chansi	L. S. I
Pi-yin 邲陰		Han	C. Honan	O. S. (?)

Mint	Location, 770-481 B.C.	Location, 403-221 B.C.	Modern location	Type of Spade cast by the mint
P'i-shih 皮氏	Chin	Liang	S. W. Shansi	L. S. I
P'ing-chou 平周	Liang		C. Shansi	L. S. II
P'ing-yang 平陽	Wei or	Liang? or	N. Honan or	L. S. II
	Chin or	Han (or Chao or Liang) or	S. W. Shan- si or	
	Lu		S. W. Shan- tung	
P'ing-yin 平陰		Chou	N. Honan	L. S. II
P'ing-yüan 平原	Chin	Chao	N. W. Shan- tung	L. S. II
Po 亳	Sung	Ch'u?	E. Honan	H. H. S. II
P'u-pan 蒲坂(甫反)	Chin	Liang	S. W. Shansi	O. S.
P'u-tzu 蒲子(甫子)	Chin	Liang	W. Shansi	L. S. II
Shan-yang 山陽		Liang	N. Honan	O. S.
Shang-ch'iu 商丘	Sung	Sung?	E. Honan	L. S. II
Shang-pi- yang		Han?	C. Honan	L. S. III
上郊陽 Sung	Sung	Sung	E. Honan	H. H. S. II
宋 Ta-yin		Liang or Han	N. W. Honan	L. S. I; L. S. II
大陰				
Tu 杜(土)	Chou	Ch'in	W. Shensi	H. H. S. II
Tu-yang 杜陽	Chou	Ch'in	W. Shensi	L. S. II
(土湯) T'un-liu	Chin	Han	S. W. Shansi	L. S. II
屯留 (2)				

Mint	Location, 770-481 B.C.	Location, 403-221 B.C.	Modern location	Type of Spade cast by the mint
Tung-chou 東周		Tung-chou	N. Honan	H. H. S. III
T'ung-t'i 銅鞮(同是)	Chin	Liang?	S. Shansi	L. S. II
Tzû-shih 茲氏	Chin	Chao	C. Shansi	L. S. I; L. S. II
Wên-yang 汶(文)陽	Lu	Lu	C. Shantung	L. S. II
Wu 鄆	Chêng or Chin	Han or Chao	N. W. Honan or C. Shansi	L. S. II
Wu 武		Liang, Ch'in (after 396)	E. Shensi	H. H. S. III
Wu-an 武安	Chin	Chao	N. Honan	H. H. S. III; L. S. II
Wu-p'ing 武平	Chin	Chao	N. Honan	L. S. II
Yang 陽		Han	N. W. Honan	H. H. S. II; L. S. I
Yang-ch'êng 陽城(成)		Han	N. Honan	L. S. II
Yang-i 陽邑	Chin	Chao	C. Shansi	L. S. II
Yang-jên 陽人	Chêng	Han	C. Honan	L. S. II
Yin-chin 陰晉	Chin	Liang, Ch'in (af- ter 332)	E. Shensi	O. S.
Yü 于(邠)	Chin?	Han?	N. W. Honan	H. H. S. II
Yü 虞吳	Chin (since 665 B. C.)	Liang	S. W. Shansi	H. H. S. II; O. S.
Yü-yang 漁陽	Yen	Yen	N. Hopeh	L. S. II
Yüan 垣		Liang	S. W. Shansi	O. S.

(C. Shensi) by Lo Chên-yü.⁷⁶ The old Spades of An-i are reported to have been discovered in "Chin-chung" (Shansi), and the various Late Spades are said to have been recovered in "Chin-chung" (Shansi) and "Shan-yu" (Shansi), in "Chi-hsing" (Hopeh) or Chih-li (Hopeh) by most of the numismatists mentioned above.⁷⁷ The most recent discovery of a number of H. H. Spade I in the Chou tombs by Kuo Pao-chün was made in Chi county, northern Honan. In the Ch'un-ch'iu period, these areas were the territories of the royal domain of Chou and of the states of Chin, Ch'in, Yen, Wei, Chêng and Sung, in all of which mint towns of spade coins were located.⁷⁸

If we examine further the locations of the mints of the various types of the spades, we will find that within this extensive area, certain types of spades are found to be local varieties of particular regions. H. H. Spade I and Late Spade I, which developed out of the former, appear to be a type of the region between the Yellow and the Fên Rivers in what is now southern Hopeh and central Shansi.

⁷⁶ See Li Tso-hsien, *Ku ch'üan hui* (Coole, No. 266), Part I, X, 1b; Li Tso-hsien and Pao K'ang, *Hsü ch'üan hui* (Coole, No. 199), Part I, II, 7b; Ch'u Shang-ling, *Chi-chin so-chien lu* (Coole, No. 9), "fan-li" (Rules for the compilation) and II, 8a—8b; Pao K'ang, *Kuan-ku-kê ch'üan-shuo* (Coole, No. 296), 1a; Pao K'ang ed., *Hsü ch'üan-shuo* (Coole, No. 202), 4a; Fang Jo, *Yüeh-yü ku-huo tsa-yung* (Coole, No. 290), under the "Han-yang" hollow-handle spade; Lo Chên-yü, *Yung-lu jih-cha* (Coole, No. 392), 1934, photostat ed., 10b; Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu" (Researches in ancient coins), *Ch'üan-pi*, No. 9 (1941), 23.

⁷⁷ See Ni Mo, *Ku-chin ch'ien lüeh* (Coole, No. 245), II, 11b. Ch'u Shang-ling, *op. cit.*, I, 4a, 14b, 16a, 16b, 18a; II, 4b; Li Tso-hsien, *op. cit.*, Preface III, 12b; *Kuan-ku-kê ch'üan-shuo*, 1b; *Hsü ch'üan-shuo*, 1b; Pao K'ang, *Kuan-ku-kê ts'ung-k'ao*, III (Coole, No. 299), 7b; *Ch'üan-pi*, No. 5 (1941), 23.

⁷⁸ A nineteenth century collector named Chin Hsi-ch'ang reports that during the reign of Emperor Ch'ien-lung (1736—1795) "several tens to a hundred" of hollow-handle spades bearing legends of "Wu" and "Lu-shih" were unearthed in mountains of Yü-hang in Chekiang Province (*Ch'ing-yün-kuan shou-ts'ang ku-ch'üan shu-chi*, Coole, 101, IX, 4b—5b). The locations of Wu and Lu-shih are indicated in the table. Yü-hang is in northern Chekiang near the sea coast. During the Ch'un-ch'iu period it was in the territory of Yüeh. It is not known how old the remains were in which the coins were discovered, therefore it is difficult to determine when those spades were brought there. They may have been brought at the time when they were still in circulation in the interior of ancient China.

H. H. Spade II was the type along the Wei River, in central Shensi, the Yellow River in Honan and the Chi River in southwestern Shantung. H. H. Spade III was the type in the region of present western Honan, and Late Spade IV was the type of the state of Ch'in of the late Chan-kuo period, the territory of which corresponded to present western Shansi, western Honan and Shensi.

Some of the towns originally belonging to Sung, Lu and other states were annexed by Ch'u during the Chan-kuo period, and some originally belonging to Lu and Chin were annexed by Ch'i. Both Ch'i and Ch'u had their own special coinages, the knife and *Yüan Chin* respectively. Coins show that change of political domination did not bring about abolition of the previous coinage and the exclusive adoption of that of their new overlords by these towns. It is true, of course, that a gradual change to wider circulation of the conquerors' currency took place.

Although a specific type of coin, as the spade or knife, was regional in the location of its mints and principal circulation, it must be understood that inevitable trade between the various areas would cause limited amounts of currency to be used in outside areas.

5. SPECIAL OLD SPADES OF LIANG

(PLATES XV, 3—5; XVI, 1)

The term, "Special Old Spades," like other terms used to classify spade coins, is given purely for convenience's sake. With it we refer to a large group of spades of Liang which differ from its regular series of Old Spades. Both groups appear to have circulated at the same time. The legends on the special group are the longest found on any spade coins, whatever their type, and their content is also unusual. Inasmuch as the group differs from others substantially in monetary significance, they deserve special discussion.

These spades may be divided into four types, The legends of two of the types are made up of six characters, while the legends of the

other two have seven and eight respectively. The six-character and the seven-character legends are not very difficult to read, but the eight-character legend has been, to use Lacouperie's words, "a stumbling block" to numismatists. To be sure, quite a few different readings for it have been suggested,⁷⁹ but each of them is based on unacceptable conjecture. It is to Tung Yu-ch'êng (1791—1821) and Kuo Mo-jo (1892—) that we must give credit for its correct reading.⁸⁰ The four legends are as follows:

- a. *Liang chêng shang chin tang lieh* 梁正尙金當濺 or "Liang standard superior money equal to one *lieh*." PLATE XV, 3.
- b. *Liang pan shang erh chin tang lieh* 梁半尙二金當𠬞 or "Liang superior money, half (unit), two equal to one *lieh*." PLATE XV, 4.
- c. *Liang ch'ung chin chin tang lieh* 梁充𠬞金當𠬞 or "Liang money to be used as one *chin* and equal to one *lieh*." PLATE XV, 5.
- d. *Liang ch'ung chin wu tang lieh shih erh* 梁充𠬞五當𠬞十二 or "Liang money to be used as five *chin* and equal to twelve *lieh*." PLATE XVI, 1.

The weights of the specimens in the cabinet of the Museum of the American Numismatic Society are shown in the following chart:

⁷⁹ For the various readings of the legend see *Ku ch'ien ta-tz'ü-tien*, VIII, 20a—21b; *Ch'üan-pi*, No. 24, p. 11; No. 25, p. 2; No. 26, p. 8.

⁸⁰ The article of Tung Yu-ch'êng 董祐誠 is quoted in the *Ku ch'ien ta-tz'ü-tien*, XII, 496a. Kuo Mo-jo's reading is in *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, 13b. It must be noted that both scholars arrived at the reading by calculating the weight of the spade with this legend, but the method used by Tung Yu-ch'êng is wrong, because he mistakenly understood the *chin* 𠬞 (monetary unit of the spade) as exactly identical with the later weight measure *chin* 斤, which is made up of sixteen *liang*. Actually, during the Chou period the *chin* as a monetary unit weighed approximately as much as the *liang*. Therefore his reading is just accidentally correct.

Type	Average Weight	Weight of Heaviest Specimen	Weight of Lightest Specimen
a	12.61 (average of 17 specimens)	16.00	10.80
b	approximately half that of c ⁸¹		
c	12.18 (average of 8 specimens)	15.05	7.21
d	23.54 (average of 7 specimens)	28.02	17.40

Liang, the first character in each of the legends, is the name of the mint or issuing city or authority, as are the first characters or initial combinations of characters in the legends of all coins of the Chou period.

Chêng, the second character in the legend of a) means "regular" and "standard." Some numismatists understand it as meaning "whole" or "a whole one," as against the "half" in the legend b).⁸² This, however, does not seem to be a plausible explanation.

Pan, the second character in legend b) means "half," a denominational term used for all types of spades except the Hollow-handles. It must be used here in reference to the denomination of one of the other three types of the Special Old Spades of Liang. Since coins of legends c) and d) are of one group distinguished by the monetary designation "*ch'ung*" in their legends and are different from type b), the type with which type b) with the "half" denomination is related must be type a), the full "unit" spade of Liang.

The size of the spade of the "half" denomination is much smaller than that of the "unit" spade (see PLATE XV, 3—4) with legend a) and legend b). According to Kuo Mo-jo, the weight of the spade with legend b) is approximately half of the spade with legend c).

⁸¹ The weight of type b) is according to Kuo Mo-jo, who seems to have weighed a specimen of this type.

⁸² *Chêng Chia-hsiang*, for example, holds this opinion; see *Ch'üan-pi*, No. 25, p. 9.

As shown in the above chart, the spade with legend c) weighs approximately the same as the spade with legend a). Therefore, the weight of the spade of type b) must be about half the weight of the spade of type a). In other words, the spade of type a) represents the coin of a whole unit, while the spade of type b) represents that of a half unit.

As specified in their legends, the monetary unit of the spades with legends c) and d) is the *chin*. Since the spades with legends a) and b) belong to the same group, the monetary unit of the latter must be the *chin*. The average weight of the spade with legend a) shown in the above chart is roughly the same as the weight of ordinary Old Spade of one *chin* denomination, about 13 grams.

The reading of the second character in legends c) and d) as *ch'ung* has been accepted by most numismatists and some epigraphers.⁸³ The primary meaning of the character *ch'ung* is "to fill up," from which the meaning of "to be used as" or "to be reckoned as" is later derived. In the case of the spade with legend d), whose weight does not correspond to its denomination, *ch'ung* actually signifies what we mean by the word "token." It is most likely that, though specified as of one *chin* denomination, the *ch'ung* spade with legend c) weighed less than the spade of the "standard" type of the same denomination.

The last character in all of the legends is *lieh*, which has been erroneously identified and read as *yüan* by most numismatists. This will be further explained on pp. 207—211.

Anyone who reads the legends of the Special Old Spades of Liang cannot help being impressed and fascinated by the phrases "standard superior money," "money to be used as" and their equations to or exchange rate with the *lieh*. These expressions or specifications are not found either in the legends of any other Old Spades or of the

⁸³ Other decipherments for the character are *ch'i* 奇 meaning "uncommon" or "special" (Fang Jo, *op. cit.*, see above, note 76; decipherment found under the illustration of a specimen of the Special Old Spade of Liang), *hsin* 新 meaning "new" (*Ch'üan-pi*, No. 25, p. 2) and *k'ua* 夸 meaning "big" (*op. cit.*, No. 26, p. 8). Tentatively we suggest *hsüan* 玄 meaning "dark."

spades of other types. Their unique nature leads us to believe that the Special Old Spades of Liang were cast to cope with new and special monetary situations.

Let us examine the history of Liang to see whether we may find the special conditions which may have called forth the type. In the early years of the Chan-kuo period in which Old Spades appeared there were three places bearing the name "Liang." One, designated either as "Liang" or "Shao Liang" (Small Liang), was located on the west bank of the Yellow River in the central part of eastern Shensi. Another, designated as "Nan Liang" (Southern Liang), was located south of the Ju River in central Honan and appeared to have been annexed by the state of Han about 376 B. C. Both towns were situated in an area far from the economic and political center of China of that day, and both were economically rather insignificant. Neither seems to have been the one which established the new and complex coinage under discussion.

The third city with the name of Liang was Ta Liang or "Great Liang," capital of a state which was located on the eastern plain of ancient China close to the "Cross-road," and on the Great Canal waterway system connecting the Yellow River valley and the valleys of the Huai and the Yangtze Rivers. It was strategically situated in the state of Liang, also known as Wei (to be distinguished from the Wei state whose name is written differently though pronounced the same, and which was created many centuries earlier). In 362 B.C. the state abandoned its old capital of An-i in the west, moved to Great Liang, which was made its new capital.⁸⁴ Before 340 B. C., the year Liang yielded to the state of Ch'in all its land and towns west of the Yellow River at its southern bend, the territory of Liang was extensive and well placed, cutting across the central part of ancient China and connecting Ch'in in the west (modern Shensi) and Ch'i

⁸⁴ This date (362 B. C.) about a quarter of a century earlier than the traditional date, is arrived at from a statement in the old edition of the *Bamboo Annals* (See Ch'ien Mu, *Hsien-Ch'in chu-tzu hsi-nien k'ao-pien*, 135—142). Because its capital from this year on was Ta Liang, the state was thereupon called Liang.

in the east (Shantung Peninsula). In the north it had possession of the old Chung-shan state in central Hopeh, and in the south it may have penetrated deep into the valley of the Huai River. In other words, the territory of the state occupied horizontally the central part of Chou China in the Chan-kuo period. In this strategically situated territory traversed the Yellow River, the Fên River, the Chang River, the Southern Chi River, and the canal system of the Great Canal. All of these were important waterways in ancient China and constituted a communication system to and from all directions.

Upon such a promising natural potentiality were exerted the efforts of a wise administration. The early history of the state is filled with laudatory stories about the administrative activities of the best statesmen of the age. During the reigns of Marquis Wên (425—397 B. C.), Marquis Wu (396—371 B. C.) and King Hui (370—319 B. C.) the state underwent fundamental reforms in both its politics and economy. It abandoned the traditional aristocratic rule by blood, and redistributed the land (at least in part of the state), aiming at bettering the life of the peasants. Ways and means were worked out to promote production in agriculture, and promotion of commerce had been encouraged. As a result, as Prof. Ch'ien Mu has rightly pointed out, the state achieved a sort of hegemony to be emulated by other feudatories over a period of some eighty years from 425 to 344 B. C.⁸⁵ It was during this Old Spade period that the "Special Old Spades of Liang" were in circulation. Indications are that Liang cast these special spades in addition to its ordinary Old Spades, after the state moved its capital to Great Liang in 362 B. C.

At this time commerce in China was expanding. With their state the most powerful at the time, situated in a key economic area through which merchandise to and from all parts of China must traverse, the rulers of Liang may have found it necessary and advantageous to issue special coins to facilitate the business transactions

⁸⁵ Ch'ien Mu, *op. cit.*, 126 and the section of tables, pp. 90—91.

between their merchants and those of other regions. This motivation is clearly manifested in the fact that every one of the Special Old Spades was given not only a denomination in terms of the local monetary unit *chin*, but also a denominational equivalence in terms of the *lieh*. The *lieh* seems to have been the weight unit of the early spade coinage and remained to be such in some parts of the spade area after Old Spades had made their appearance. The ever present specification of the equation between the *chin* and the *lieh* on these Special Old Spades indicates that they were cast as a sort of inter-regional currency between the area where the *chin* was the monetary unit and the area which used the *lieh*.

V. THE KNIFE COINAGE

1. ITS ORIGIN AND DATE

The problem of the origin of the knife coinage is much simpler than that of the spade. The character for *tao*, the name of the knife coinage, is the same as for the instrument from which it developed. In shape, the coin faithfully resembles the original implement, and there is no possibility whatsoever for the coin to be taken as an imitation of any other object.

In one of the first excavations in Yin-hsü, the last capital of the Shang dynasty, a bronze knife was recovered (PLATE XXVIII, 1).¹ Its main features are identical with those of the early knife coin. Its body is slightly bent as is the Early Knife, and at the end of its handle there is a ring, which is also found on the coin. Its measurements, made from Li Chi's illustration, are 220 mm. in length and 25 mm. in width. Later two other bronze knives of the same shape were discovered at the same site.² One of them had a richly decorated handle on which the ring was replaced with a "horse's head." It is 288 mm. long and 38 mm. wide at its broadest point. The other knife was plain, 228 mm. in length and 36 in width, with the usual ring at the end of its handle. Different from the earlier one, the handles of these two are slit from end to end. The purpose for which the groove was made is not known.

¹ Illustrated as No. 6 on the plate with Li Chi's 李濟 article "Yin-hsü t'ung-ch'i wu-chung chi-ch'i hsiang-kuan chih wên-t'i" (Five bronze objects discovered in Yin-hsü and the problems in regard to them), *Ch'ing-chu Ts'ai Yüan-p'ei hsien-shêng liu-shih-wu-sui lun-wên-chi*, 1933, Part I, 73—104. The author's comment on the knife is on pp. 90—91.

² Shih Chang-ju 石璋如 "Yin-hsü tsui-chin chih chung-yao fa-hsien" (Most recent and important finds in Yin-hsü), *Chung-kuo k'ao-ku hsüeh pao*, II (1947), 1—81, fig. 16, 6 and PLATE XI, 4.

The American Numismatic Society has in its collection a knife (PLATE XXVIII, 2) which is said to have been discovered in Wei Hsien (Wei County) in eastern Shantung. It was badly oxidized through the ages, and in appearance gives the impression of being very old. Like the others described above, it has also a mildly bent body, but, unlike them, its blade is much narrower, being only 12 mm. at its broadest point, which is always the part of the blade which joins the handle. Its length is 220 mm. The ring at the lower end of the handle is exceedingly large. The handle which appears round in shape has a few parallel grooves, with four long ones running from end to end. Those grooves were obviously made to give the user a firm hold. This design on the tool reminds us of the two parallel lines on the handle of almost all of the knife coins, early or late. The two-line design on the handle of the coins certainly is in imitation of these grooves on the actual tool. Though this knife may not be the very type from which the first knife coins developed, it certainly suggests the features of the knife in general. The coincidence of the grooves on the tool and the raised two-line design on the coins becomes more significant when we consider that the reported location where the knife was discovered is in the area where the Early Knife coinage circulated.

Some numismatists believe that the knife after which the coin was modelled was a household implement, and some contend that it was a weapon. Li Chi regards it as the *hsüeh* mentioned in the *K'ao-kung chi*³ which is now incorporated in the text of the *Chou li*. The ancient Chinese *hsüeh* was something functionally like a whittling knife used to cut off thin slices from a piece of wood or bamboo. The shape of the knife specimens described above suggests such a functional use. In the *Chou li* it is stated that the length of the *hsüeh* is one *ch'ih* (foot) and the width is one tenth. The longest of the foot measures of the Chou period which have been discovered and reported is 225 mm., and the shortest is 219 mm. The measure-

³ Li Chi, *op. cit.* 91. The passage in the *Chou li* to which he refers is in XL, 6b.

ments of the knives mentioned above correspond fairly well to those for the *hsüeh* recorded in the *Chou li*. This is additional support for Li Chi's identification with the *hsüeh*.

Which type of the knife coins preserved today is the "early knife?" This is still a topic of controversy. In our opinion the early knife coins are the large knives of Ch'i, Chi-mo, An-yang and T'an (PLATES XXIX—XXXVIII, 1), which is also the opinion generally held by most numismatists, save for Okutaira Masahiro and Chêng Chia-hsiang.

Chêng Chia-hsiang contends that the earliest knife coins are the "sharp-pointed knives."⁴ So also does Okutaira,⁵ though he is silent on the reasons for his belief. Chêng Chia-hsiang expresses the following reasons for his contention: 1) Sharp-pointed Knives have a (thin) blade (in other words, they resemble more nearly the actual tool); 2) their legend is not a mint name; 3) the style of their inscriptions is mostly that of the "great seal character," while that of the large knives of Ch'i and the other three states is mostly in the style of the "small seal character."⁶

To his first point we may counter that not only is the blade of the Sharp-pointed Knives thin, but every part of them is thin. In fact, their handle ring is so thin and flat that, contrary to Chêng's supposition, it only remotely resembles that of the original tool. The thinness and fragile appearance of the knives suggest rather that they are late in origin. Concerning the style of inscription, Chêng Chia-hsiang's argument is not borne out by facts. Comparison of the inscriptions on the Sharp-pointed Knives and on the large knives of Ch'i and the other three states does not show marked differences in style. There are also archaic pictograms in the inscriptions of the large knives. Furthermore, it is his opinion that the Sharp-pointed Knives lasted a long time and remained in circulation as late as the Chan-kuo period.⁷ In other words, they

⁴ This term is used by Lacouperie.

⁵ Okutaira, *Tōa senshi*, II, 79b.

⁶ Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu," (A study of the ancient Chinese coins), *Ch'üan-pi*, No. 4, pp. 31 and 34.

⁷ *Ch'üan-pi*, No. 5, p. 24.

are not only anterior to the Ch'i knives, but also contemporary with and posterior to the latter for certain periods. It is difficult to see how Chêng Chia-hsiang could reconcile the late date of these knives with their supposedly more archaic style of inscription. The fact is that the stylistic distinction alleged by him does not exist.

Of the three reasons expressed by Chêng Chia-hsiang the second is the most plausible, but here too he failed to make his argument convincing. Of the many hundred Sharp-pointed Knives preserved today only one specimen, that of Lin, or possibly two (if that of Liao reported by him be included), bears a mint name. Yet Chêng Chia-hsiang has admitted that as late as the Chan-kuo period, or the end of the Chou dynasty, Sharp-pointed Knives continued in circulation. Many of the Sharp-pointed Knives in circulation then must be without inscription of the mint name. This fact demonstrates clearly that the inscription of mint name alone, or rather the absence of mint name as the coin's legend, cannot be sufficient evidence for determination of its date. Among the Small Knives of the third century B. C. the great majority have no legend whatsoever. Can we say that those uninscribed late knives were earlier than the inscribed Ch'i knives? What makes one most skeptical about Chêng Chia-hsiang's alleged early origin of the Sharp-pointed Knives is the unbelievably long duration in circulation which he ascribes to them. Chêng Chia-hsiang contends that they originated at the beginning of the Chou dynasty and lasted into the end of the period, covering about eight centuries. This would require that in such a long period no noticeable changes occurred to the coins with regard to their shape, length or weight, while in immediately adjacent areas the spade coin was undergoing constant change in those respects.

We believe that the knife coinage like the spade coinage had undergone many and marked changes from its beginning to its end, and we also believe that the Sharp-pointed Knives were considerably late in origin. In addition to their small size and low weight, the evidence in support of our belief is: First, Sharp-pointed Knives are reported

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to have been discovered together with Ming knives⁸ which, as admitted by all, were coins of the Chan-kuo period and consequently late in origin; secondly, the town of Lin had cast this type of knife.⁹ Lin was not established before 430 B. C. (see above p. 128). Since the Lin sharp-pointed knife is typical in every respect, the Sharp-pointed type of knife coinage could not have begun much earlier than this date.

The evidence for an earlier date for the large knives of Ch'i is to be found in their legend, which reads *Ch'i tsao-pang ch'ang fa-huo* 齊造邦長法化 or "Everlasting legal money of Ch'i at the establishment of the State" (PLATE XXIX).¹⁰ Here the phrase *tsao-pang* (establishment of the state) is the point of crucial importance.

When was the state of Ch'i established? The answer varies with different numismatists. Some of them, and many historians too, follow the traditional account of the history of Ch'i and believe that it was established as a feudatory state after Lü Wang, popularly known as T'ai-kung Wang, the most important assistant of King

⁸ Reported by Li Tso-hsien who states that during the Tao-kuang period (1821—1861) a hoard of Sharp-pointed knives and Ming knives were discovered in the area around the imperial capital which is now Peking (*Hsü ch'üan shuo*, 1b). The total number in the hoard is not known, but all of them were procured by Li Pao-t'ai. Subsequently Li sold the ordinary specimens and retained the "unusual ones." Many years later when Li Pao-t'ai offered them to Li Tso-hsien, the remaining part still numbered "more than two hundred specimens."

⁹ For an illustration of the Sharp-pointed knife of Lin see PLATE XLI, 3.

¹⁰ The reading of the legend varies with different numismatists. The various readings are found in *Ku ch'üan ta-tz'ü-tien*, VII, 51a—52b. The reading we follow is the most satisfactory not only from the point of view of epigraphy and philology but also from the idiomatic usage of the phrases of *tsao-pang* and *fa-huo*. *Tsao-pang* meaning "establishment or creation of a state or new state" is found in the Chün-shih chapter of the *Shang-shu*, (X, 2b). *Fa-huo* is not found in the literary sources, but the phrase *fa-ch'ien* which means practically the same is found in a memorial presented to Emperor Wên by Chia I (201—169 B. C.), *Han shu*, XXIV, Part 2, 3a.

In connection with the early knives of Ch'i, mention must be made of the knives with a legend of nine characters. Examples of so-called "nine-character knives of Ch'i" are in Lacouperie's *Catalogue of Chinese Coins* (pp. 223—226). Lacouperie reads their legends as of nine, ten and eleven characters, and formulated thereupon his theory of "monetary unions." Actually none of these specimens is genuine: some of them are fabrications while others are genuine pieces with altered legends.

Wên and King Wu of Chou, was enfeoffed with Ying-ch'iu in the territory of Ch'i after King Wu conquered the Shang dynasty in 1122 B. C. (conventional date).

Other numismatists are skeptical about such an early date for the coins although they still believe in the traditional date of 1122 B. C. for the enfeudation of Lü Wang by King Wu. To reconcile the conflict between their belief of the late origin of the knife coins of Ch'i and that of the traditional origin of the state, they advance a different interpretation of the phrase *tsao-pang*, establishment of the state. They argue that the phrase does not refer to the first creation of Ch'i in the twelfth century but to the hegemony the state attained during the reign of Duke Huan (685—643 B. C.). They then naturally assume that the *tsao-pang* knives were cast in the seventh century. Of this interpretation Chêng Chia-hsiang is the exponent.¹¹

Some other numismatists find the explanation of this school untenable, for the reason that, though Duke Huan achieved hegemony over other feudal states and even the royal court, he did not "establish" a new state. However, they share the conviction that the Ch'i large knives were late in origin. Happily, they find an event in the history of the state of Ch'i which could be interpreted in their favor, the usurpation of Ch'i of the house of Chiang (family name of Lü Wang and his descendants) by the house of T'ien in 386 B. C.¹² The T'ien were a powerful noble family in the state of Ch'i from the thirties of the fifth century on. In 391 B. C. T'ien Ho expelled Duke K'ang of Ch'i to an island off the Shantung Peninsula. In 386 B. C. he established himself as the ruler of the state. In the opinion of these numismatists, the usurpation of Ch'i of Chiang by the T'ien is the "establishment of the state" referred to by the legend of the *tsao-pang* knives. The numismatist who strongly advocates this theory is Okutaira Masahiro.¹³

¹¹ Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu," *Ch'üan-pi*, No. 4, p. 34.

¹² This date, as well as all the other dates here of the Chan-kuo period in the western calendar, is given by Ch'ien Mu, *Hsien-Ch'in chu-tz'ü hsi-nien k'ao-pien*, General Table 2.

¹³ Okutaira, *Tōa senshi*, VI, 2b.

Most numismatists follow the first of the three hypotheses, few the second, and still fewer follow the third. After examining all relevant facts, however, we find none of the three satisfactory.

The third theory advocated by Okutaira does not fit into the chronology of ancient Chinese coinage. The large size, heavy weight, and the archaic epigraphical style of the coin legends preclude the possibility of the Ch'i large knives being coins of the fourth century. Though the power of the state of Ch'i had been transferred from one family to another, a new state was not created. In its institutions, legally, politically and economically, the old Ch'i continued in every respect. Even the very name of Ch'i was still kept by the usurper.

The second interpretation as advocated by Chêng Chia-hsiang has similar weaknesses. Duke Huan inherited the Ch'i created by his forefathers. Though he expanded the territory of the state and made it powerful, he did not establish a new one. For Duke Huan to have regarded the Ch'i during his reign as his own new creation would have run counter to the old Chinese political and ethical philosophy that the state was sacred property handed down by their ancestors to a ruler as a household was to an ordinary man. According to this philosophy the very existence of posterity was a favor from the ancestors and the survival of the state depended on their protection. Posterity owned nothing and created nothing, though posterity could glorify the state by aggrandization.

On the whole we agree with the first interpretation that the knife coins of Ch'i were cast when the state was first established, but we disagree with the traditional date of the state's establishment.

King Wu did not grant the territory of Ch'i to Lü Wang as his fief. He could not, for during his reign the territory which later came to be known as Ch'i had not been conquered by Chou and was still in the hands of the Shang people or their vassals. This has been proved by Prof. Fu Ssü-nien.¹⁴ Prof. Fu also contends that the very name of

¹⁴ Fu Ssü-nien, "Ta-tung Hsiao-tung shuo," *Li-shih yü-yen yen-chiu-shuo chi-k'an* (Bulletin of the National Research Institute of History and Philology), II (1930), 105—6.

the supposed recipient, Lü Wang or Wang of Lü, suggests that the original fief of Wang was Lü and not Ch'i. Even Wang's son still bore this name, Lü.¹⁵ As we know, in ancient China after a noble was granted a fief or appointed to an office he was thereafter generally called by the name of the fief or that of his office. Therefore the Lü of Wang whose original family name was Chiang was undoubtedly the name of his fief or his main fief (see below). Lü as a feudatory in the early days of Chou was located west of present Nan-yang in Honan.

However, it is an undeniable historical fact that Ch'i was a state of Lü Wang's descendants. In the Ku-ming chapter of the *Shang-shu*, Lü Chi, Lü Wang's son or one of his sons, is already called by the title of "Ch'i Hou" or "Marquis of Ch'i" in 1079 B. C. There is no doubt that at this time the territory of Ch'i had been granted to Lü Chi. This is thirty-two years after that district was conquered by Chou, probably in 1111 B. C., according to the traditional date. The first recipient of the Ch'i fief might have been Lü Wang himself, for in the early historical literature he is depicted as a man who had lived for a considerable length of time. Ssü-ma Ch'ien records that he lived for "more than one hundred years."¹⁶ The old text of the *Bamboo Annals* states that he died in the sixth year of King K'ang, which falls in 1073 B. C. in the traditional chronology.¹⁷ If the latter record is reliable, it is possible that Lü Wang was the recipient of the fief.

Does the possible grant of Ch'i to Lü Wang mean the establishment of Ch'i as a feudal state? It may or may not. A passage in the T'ai-kung chapter of the *Li chi* states that "Since T'ai-kung (Wang) was enfeoffed with Ying-ch'iu (as his fief) down to the fifth generation his descendants always returned their dead to Chou for burial."¹⁸ This statement makes it clear that as late as the fifth generation

¹⁵ See the Ku-ming chapter of the *Shang-shu* and *Tso chuan*, XLV, 19a.

¹⁶ *Shih-chi*, XXXII, 4a.

¹⁷ Wang Kuo-wei, *Ku-pên chu-shu chi-nien chi-chiao*, *Wang-chung-ch'iao-kung i-shu* ed., 7a.

¹⁸ *Li chi chu shu*, VII, 1a.

Ch'i was not regarded as their home by the very noble beneficiaries. Our impression is that after the area of Ch'i was conquered by Chou in 1111 B. C. it might have been given to Lü Wang as an additional fief if he had lived that long, or to his son Lü Chi as his fief, with his father's original fief, Lü, retained in the hands of other members of the noble family. If the recipient was Lü Wang, there is no reason to believe that he had resided there. As indicated in a passage in the Ku-ming chapter of the *Shang-shu*, even his son Lü Chi, who bore the official title of "Marquis of Ch'i," stayed at the Chou court and served as an important minister. If the recipient was Lü Chi, he was an absentee feudal lord. In neither case does Ch'i seem to have been established as a state, though the noble family might have received revenues from their fief.

It was the tradition of the Chou that the establishment of a feudatory must be accompanied with the completion of the following steps: 1) investiture including the casting of memorial bronzes; 2) the construction of the *she*, altar for the god of the earth and symbol of the existence of the state; 3) the erection of the ancestral temple of the ruling family; and 4) the construction of a walled capital. The completion of these requirements could be prolonged for some time. Since down to the fifth generation the nobles of Ch'i still sent their dead back to Chou for burial, there is more reason to doubt than to believe that Ch'i had been established as a feudal state before the fifth generation of the noble house.

This conjecture fits into Ssü-ma Ch'ien's account of the early history of Ch'i in *Shih-chi*, XXXII. During the first five generations the history of the noble family of Ch'i was full of internal feuds. Duke Hsien was the first to establish his capital at Lin-tzü, which remained such until its conquest by Ch'in in 221 B. C. Taking Lü Wang as the first ancestor, Duke Hsien was the fifth generation in Ch'i pedigree. It is quite possible that Duke Hsien may have been the one who "established" the Ch'i state, and who, if our foregoing hypothesis be correct, cast the *tsao-pang* knives of Ch'i. Duke Hsien ruled Ch'i during the reign of King I of Chou, which corresponds

to 894—879 B. C. according to the traditional date. This assumption, while reasonable, cannot, however, be substantiated otherwise. Therefore, we may tentatively conclude that the *tsao-pang* knives of Ch'i may be as early as around 1079 B. C. and as late as the first half of the ninth century.

Is the *tsao-pang* knife, the earliest of all Ch'i knives, also the earliest of the knife coinage? This is another question which deserves serious consideration. In addition to those of Ch'i, there are also the large knives of Chi-mo, An-yang and T'an (PLATES XXXIV—XXXVIII, 1.) Chi-mo, An-yang and T'an were all old states on the Shantung Peninsula in ancient China. Because they were later annexed by Ch'i, the general impression is that they had belonged to Ch'i from the beginning. In fact, though, Ch'i was a small state before 685 B. C. with its eastern border only about a dozen miles from its capital, Lin-tzŭ.¹⁹ Chi-mo was situated on the tip of the Shantung Peninsula with a number of minor states between it and Ch'i. It is not certain whether Chi-mo was conquered by Ch'i before 522 B. C.²⁰ T'an remained an autonomous state until 684 B. C. when it was subjugated by Ch'i.²¹ As late as 412 B. C., An-yang was still a state that rivaled Ch'i.²²

These three states, together with a number of others also on the Shantung Peninsula, were derogatorily designated by the Shang people as I Fang or "Barbarian States" and by the Chou people as Tung I or "Eastern Barbarians." The contrary seems to be true, for the people of these eastern states seem to have had a civilization

¹⁹ In the *Kuo yü* it is stated that during the early years of Duke Huan eastern Ch'i bordered on the town of Hsieh of the state of Chi (VI, 9a).

²⁰ Speaking to Duke Ching of Ch'i in 522 B. C., Yen Ying states that the eastern boundary of Ch'i reached the Ku and Yu Rivers (*Tso chuan*, XLIX, 7a). The old Ku and Yu Rivers are probably the present Big Ku and Small Ku Rivers which are in the region where the capital of the ancient Chi-mo state was located. It is not known, however, whether the state had been conquered by Ch'i at this time.

²¹ This is based on an entry in the *Ch'un-ch'iu*, a history of the state of Lu (*Tso chuan*, VIII, 12b). Legge, *Chinese Classics*, V, 1, p. 85. Chuang Kung 10th year.

²² *Shih-chi*, XV, 11b. The Western date is given by Ch'ien Mu, *ibid*.

which could match that of the Shang and the Chou peoples, if indeed not superior to that of the latter for some time. They were powerful enemies of Shang and remained such of Chou during the first two hundred and fifty years of its history. The wars which Ti Hsin, last king of Shang, waged against them caused the fall of the dynasty. The three-year military campaign which the Duke of Chou conducted against them resulted in the subjugation of only the limited area of Ch'i and Lu (the original names of the territories being Po-ku and Yen, two of the eastern Shang states which are also regarded as "Eastern Barbarians" by the Chous). The states east of Ch'i and Lu remained powerful and hostile as ever.

Unfortunately, information concerning the institutions and customs of these peoples is lacking in all of the literary sources, and except for the site of Ch'êng-tzŭ-yai (east of Tsinan) no archaeological work has been done in their area. Fragmentary evidence indicates that these people had a different culture from the Chou and, for that matter, the Shang people. Confucius' statement about the barbarian customs of having hair hanging down loosely and buttoning the breast of the coat on the left side seems to refer to customs of these peoples.²³ When he expressed his wishes to go and live among the Nine I or the "nine barbarian peoples," "some one" voiced disapproval.²⁴ Since they had a different general cultural pattern, they might have had different economic institutions. Their special knife coinage was one of these.

The Eastern Barbarian states of Chi-mo, An-yang and T'an were not conquered by Ch'i until after the beginning of the seventh century. They had, however, already cast large knives of the type of Ch'i for at least two centuries, and there are indications that the Ch'i knife might have been borrowed from one of them.

Which state among these was the first to adopt knife coinage? It is impossible to say; some state for which no specimens have been discovered or preserved may very well have been the first. There is an indication that the Chi-mo knife was earlier than the Ch'i knife in

²³ *Lun-yü*, XIV, 5b.

²⁴ *Lun-yü*, XIV, 5a.

the way in which the phrase of "establishment of the state" is written. On the Ch'i knife, the term is found in the obverse legend, and it reads *tsao pang* 造邦. On the Chi-mo knife, the term is found to be the inscription on the reverse, and reads *k'ai fêng* 開封. With *tsao* (literally meaning "to make") and *k'ai* (meaning "to open," "to create") each meaning the same in their use to convey the idea of establishment of a state,²⁵ the only difference is that in one case the character *pang* is used and in the other *fêng*. It has long been known that originally these two characters were completely synonymous, being two forms of the same character. The discoverer of the etymological history of the two characters is Wang Kuo-wei, who traces their origin to the practice of planting trees along the borders of a territory to mark boundaries. Of the two, *pang* is undoubtedly later than *fêng*, for while *fêng* in its original form is a pictogram symbolizing two standing trees, *pang* is signic-phonetic with its signic being the component part *i* 邑 for "town" or "city." As a rule signic-phonetic characters are later than pictograms.²⁶

The late origin of *pang* can be determined not only by epigraphical

²⁵ The phrase *tsao-pang* meaning "creation or establishment of state" is found in the Chün-shih chapter of *Shang-shu* (X, 2b). The character *k'ai* in the inscription *k'ai-fêng* used in the same sense as *tsao* in *tsao-pang* is found in the phrase *k'ai-huo* 開國 in the *I* or *I ching* as it is popularly called (I, 13b). The characters *pang* and *fêng* have the same root (the tree sign) and must have had the same meaning, as Wang Kuo-wei has pointed out ("San-shih-p'an k'ao-shih," in *Wang-chung-ch'iao-kung i-shu*, third series). They meant the "boundary" marked by trees, then "boundaries of a state," and eventually "the state" itself. Since they had the same meaning, they must have been pronounced the same. As discovered by Ch'ien Ta-hsin, the ancient Chinese had no "light" labial sound, therefore *fêng* must have been pronounced something like *pêng*. *Pêng* and *pang* are but variations resulted from a slight change in pronunciation. In identifying *fêng* with *pang* Wang Kuo-wei did not use the inscriptions on the Chi-mo and Ch'i knife coins. If he had, his work would have been much easier and more direct.

²⁶ In the inscription on the reverse of an early Chi-mo knife (see PLATE XXXIV) the character *fêng* is written 𣏟 composed of one large and one small tree signs on a line. This seems to be the original form of the character. In a later form of the character the small tree sign evolved into the form of a cross with the branches of the small tree sign straightened into a horizontal stroke. Hence the forms of *shou* (hand) and *ts'un* (inch) for this part of the character in the "small seal characters."

analysis but also by the inscriptions in which it appears. *Pang* appears in the inscription of *an-pang* on the reverse of some of the early Chi-mo knives. The inscription means "making the State secure" or "consolidation of the state." By implication, the phrase refers to an action which is later than what is implied in the phrase *k'ai-fêng*, which, as has been said above, means "creation or establishment of the state." On account of this the knives which bear the inscription of *k'ai-fêng* must be earlier than the knives which bear the inscription of *an-pang*. Hence *fêng* is earlier than *pang*.

Since the earliest knives of Ch'i have the character *pang* instead of *fêng*, they most likely were later than the earliest Chi-mo knives which have *fêng* in their inscriptions. This assumption seems to be confirmed by the fact that at the end of the eleventh or the tenth century B. C., that is, before Ch'i cast its knives, the coinage of the area around Ch'i seemed to be the spade. Among the Prototype and the Hollow-handle Spades there are some specimens of which the legend is "I" (PLATE V, 2) basically the same as it appears on the round coins of I. I as the mint town of the round coins has been correctly located in the present I-tu County, southeast of Lin-tzŭ, ancient capital of Ch'i. The mint town which cast the round coins may be the same one which cast the spades. We may say then that before Ch'i adopted the knife coinage, the area in which the state was located had used the spade as currency. It appears that after Ch'i was established, or some time later, it adopted the coinage of its eastern neighbor or neighbors. As far as the preserved knife coins show, the Chi-mo knife seems to be the one on which Ch'i modelled its own.

With regard to the date of the "establishment" of the Chi-mo state and the commencement of its coinage, there is no information whatsoever. It is hoped that in the future Chinese scholars will fill in the missing pages in the history of the eastern states of ancient China by extensive archaeological explorations. At the moment we have to be satisfied with the simple observation that knife coinage is certainly of eastern origin and that the state of Ch'i which has so widely been associated with it may not be its inventor.

2. THE EARLY KNIVES AND THEIR DISTRIBUTION

By Early Knives we mean the large knives of Chi-mo, Ch'i, An-yang and T'an (PLATES XXIX—XXXVIII, 1), which in our opinion are the earliest of all of the knife coins preserved today. Except for the smaller Chi-mo knives which obviously were a later development and for which there are no counterparts from other mints, the physical appearance of the knives of all four states is practically the same. They all have a mildly bent body with the top end of the blade protruding and forming a tip. All have a handle decorated with two parallel lines reaching both ends of the handle. At the lower end of the handle is attached a ring, which is uniformly round. On the obverse, the blade is entirely occupied by the legend. Around both the blade and the handle are raised borders, with those around the blade especially high and thick; the raised border along the cutting edge of the blade is a little thinner than that on its back. In these, however, two groups of the Ch'i knives vary a little: Their raised borders are of the same width and the same height all over the knife's body and at the back the raised border is not cut at the juncture of the handle and the blade.

On the reverse of the knife's blade there is always an inscription, of either one or two characters. These characters or combinations of characters are generally regarded as "serial marks." Above the inscription is the uniform design of three horizontal and parallel lines. This design has often been mistakenly read by the Western numismatists as the character *san* for "three." Between this design and the inscription there is always the mark which appears sometimes in the form of a point and sometimes in the form of a cross. It is the latter form which some Western numismatists take to mean "ten."

On the reverse the handle has the same design as on the obverse: two parallel lines reaching both of its ends. On the handle as well as the blade a slightly raised line forms the borders. They are lower and thinner than those on the obverse side of the blade and handle.

According to their legends, the Early Knives of the mints or states above mentioned may be divided into smaller groups. In the case of the Ch'i knives there are four such groups. They are as follows:

Group	Legend	Translation	Plate
A	<i>Ch'i tsao-pang ch'ang fa-huo</i> 齊造邦長法化	Everlasting legal money of Ch'i at the establishment of the state	XXIX
B	<i>Ch'i fa-huo</i> 齊法化	Legal money of Ch'i	XXXI
C	<i>Ch'i chih fa-huo</i> 齊之法化	Legal money of Ch'i	XXXII
D	<i>Ch'i chih huo</i> 齊之化	Money of Ch'i	XXXIII

The legend of Group A can be shortened by dropping the character *fa* for "legal." The American Numismatic Society has a rare specimen, the legend of which is in this shortened form (PLATE XXX),

The knives of Groups B and C are very common, but Groups A and D are comparatively rare. Since the pieces of Group A are specified to be money cast at the "creation or establishment of the state," they must be the earliest of them all.

The coins of all four groups are of approximately the same size. While we presume that difference in size may indicate difference in weight, the variation is so slight and the degree of oxidization to which the coins have been subjected is so uncertain that it is unwarranted to make a definite statement to that effect. In design the four groups of Ch'i knives are the same except for a distinctive characteristic which may serve to regroup them into two types. Discovery of it must be credited to Chêng Chia-hsiang.³⁷ In Groups C and D the broad raised border at the edge extends only around the blade and does not continue around the handle as it does on the other two groups.

The large knives of Chi-mo may be divided into two groups according to their legend and size. The first type is larger and bears the legend of *Chi-mo chih fa-huo* 即墨之法化 meaning "Legal money of Chi-mo" (PLATES XXXIV—XXXV) while the second is smaller and

³⁷ Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu," *Ch'üan-pi*, No. 4, p. 34.

bears the legend of *Chi-mo fa-huo* 即墨法化 with the same meaning (PLATE XXXVI).²⁸

The first or the larger group of Chi-mo knives share the usual designs common to all the early knives. They bear on their reverse two interesting inscriptions: *k'ai-fêng* 開 封, (PLATE XXXIV) and *an-pang* 安 邦, (PLATE XXXV), meaning "creation (or establishment) of the state" and "consolidation of the state" respectively. They imply that the knives with the *k'ai-fêng* inscription must be issues at the creation of the state of Chi-mo and that the knives with the *an-pang* inscription must be issues after the creation of the state, but, as far as their physical appearance (judged from the limited number preserved today) goes, there do not seem to be any marked differences between them.

Marked differences, however, do exist between the first and second groups of Chi-mo knives. Since we have found that the larger knives of Chi-mo are either the first issues or issues shortly after, the smaller group must have been cast at a later date. A comparison of the two groups reveals that differences exist between them not only in size but also in weight. A specimen belonging to the first group chosen at random from the collection of the American Numismatic Society measures 181 mm. long and weighs 73.65 grams. The heaviest specimen of the second group in the same collection measures 150 mm. long and weighs 50.10 grams. In addition to weight, differences in the designs of the two groups, especially on the reverse, are also conspicuous. The reverse of the large knives (the first group) of Chi-mo has the common design of all the large knives already described, but the reverse of the small knives (the second group) is plain. The border line on the blade of the second group appears incomplete: sometimes it appears on the cutting edge and sometimes on the back of the blade. In weight, in size, as well as in design, the Chi-mo knife coinage had degenerated considerably in the stage of the second group.

²⁸ In the West, Ramsden was the first numismatist whose attention was aroused by the small series of the Chi-mo knives. See his article, "Tsi Moh Knife Coin—Small Series," *American Journal of Numismatics*, XLIV (1910), 158—163 with illustrations.

So far as the specimens preserved are concerned, the An-yang large knives are much simpler. All of them bear the same legend on their obverse. It reads *An-yang chih fa-huo* 安陽之法化 (Legal money of An-yang; see PLATE XXXVII), though the inscriptions on their reverse vary as in the case of the knives of Ch'i and Chi-mo. Their size is approximately the same. The American Numismatic Society has eleven specimens in its collection. The average width at the top of the blade is 30 mm. and their length varies between 186 mm. and 163 mm. This observation is in agreement with specimens illustrated in coin catalogues. The *Ku ch'ien ta-tz'ü-tien* has an illustration (no. 1034) of a smaller specimen, which has a width of 27 mm. and a length of 155 mm., considerably shorter and narrower than the average.

However incomplete the preservation of the early knives of Ch'i, Chi-mo and An-yang, that of T'an is most deplorable. Of this mint or state there is only one specimen preserved. This specimen is not even a whole one: only the upper part of the blade is preserved (PLATE XXXVIII, 1). This fragment of the large knife of T'an was in the possession of Fang Jo whose rubbing of the coin is found in his work entitled *Yüeh-yü ku-huo tsa-yang*. In form the upper part of the T'an knife is in agreement with the knives of the other three states: Ch'i, Chi-mo and An-yang, but on the reverse of its blade there are only two horizontal lines instead of three as found on the reverse of the blade of the knives of other states. Only two characters are preserved of the legend on its obverse. The first one is *T'an*, the name of an old state which was located east of modern Tsinan and conquered by Ch'i in 684 B. C. The second character is only partially preserved, but preserved enough to be recognized as the character *pang*, meaning "state," as it is found in the legends of the *tsao-pang* of the Ch'i knives and the *an-pang* of the Chi-mo knives. The designation of T'an as a *pang* or state is another unequivocal evidence that the large knife of T'an and those of other states of the same type were issues before 684 B. C. when T'an was still a state.

T'an, Ch'i, Chi-mo, and An-yang were all states of ancient China located in the same general area. The capital of Ch'i, Lin-tzŭ was located approximately on the site of the modern city of the same name in northeastern Shantung. Chi-mo was located in the area north of the Chiao-chou Bay on which the port of Tsingtao is situated. The exact location of An-yang is not certain, but that it was between Ch'i and another old state named Chŭ on the southeastern coast of the Shantung Peninsula seems almost beyond question. So, the early knives are all coins of states on the Shantung Peninsula.

This regional character of the early knives is further corroborated by their provenance. Ch'i knives have been discovered in Ch'ang-yang (present Lai-yang), Ch'ing-chŭn (i. e., I-tu), Chang-ch'iu, Têng-chou (present P'êng-lai), Lai-chou (present Yeh), Lai-yang and Chu-ch'êng.²⁹ The Chi-mo knives were found in the northeastern and eastern sections of the present Chi-mo,³⁰ and the An-yang knives around Tsinan, in Lai-yang and east of the countyseat of modern Chi-mo.³¹ In the excavations of the site of Ch'êng-tzŭ-yai the handle of an Early Knife coin of the large type was discovered.³² Ch'êng-tzŭ-yai was the old capital of T'an.³³ All these places are located east of longitude 117° E and between latitudes 36° N, and 38° N, the very district in which the mints of the coins were situated.³⁴

Apart from the coins themselves several moulds of Early Knives of Ch'i have been found in recent years. Lo Chên-yŭ records with

²⁹ Ch'u Shang-ling, *op. cit.*, III, 1b; III, 19b; last chapter, 6b, note; Wang Hsi-ch'i, *Ch'üan-huo hui-k'ao* (Coole 126), photostat ed., II, 1b.

³⁰ Ch'u Shang-ling, *op. cit.*, last chapter 6b, note.

³¹ Ch'u Shang-ling, *op. cit.*, III, 15a—15b.

³² *Ch'êng-tzŭ-yai*, 1929, 89, and PLATE LII, No. 9.

³³ *Op. cit.*, 96—97.

³⁴ Lo Chên-yŭ reports that Ch'i knives were also found in Honan (*Yung-lu jih-cha* 12a), but fails to furnish details. In a letter to the author Prof. William C. White also states that he acquired some large knives in Honan, but whether these knives were discovered there is not known. Even if Lo's report is reliable, it does not alter our conclusion that knives were currency of the ancient Shantung Peninsula. The Ch'i knives might have been carried beyond its borders by Ch'i merchants and they might have been accepted, to some extent, by the people of the areas adjacent to Ch'i.

illustrations two of bronze and two of clay.³⁵ All these have been discovered in the territory of the ancient Ch'i state.³⁶

To summarize, on the evidence of both their legends and of their provenance, the Early Knives of Ch'i, Chi-mo, An-yang and T'an are found to have been currencies of the region of the present-day Shantung Peninsula. It is significant that no type of coins other than knives have been discovered in this area.^{36a}

3. THE LATE KNIVES AND THEIR DISTRIBUTION

A. The Sharp-pointed Knives

Under the general class of "Late Knives," which appeared after the "Early Knives," we have included three varieties: the "Sharp-pointed Knives" (PLATES XXXVIII, 2; XXXIX—XLI), the "Ming knives," (PLATES XLII—XLVI; XLVII, 1), and the "Small Knives" (PLATES XLVIII, 3; XLIX—L).

The Sharp-pointed Knives are called *chien-shou tao* or "pointed-headed knives" by Chinese numismatists because the end of their blade looks sharper and more pointed than the other types. Knives of this type have a mildly curved body like that of Early Knives. Some curve a little more, and some a little less. Some are slightly broader and some slightly narrower. Though it is not possible to find two specimens exactly alike in every detail, their common features are such that they can be treated as one group.

Compared with the Early Knives, Sharp-pointed Knives are small, thin and fragile. They are also much simpler in design. Most of

³⁵ *Ku ch'i-wu fan pu-lu* (Coole 232), II, 3b—5b.

³⁶ *Yung-lu jih-cha*, 21b; Wang Hsien-t'ang 王獻唐, *Lin-tzũ fêng-ni wên-tzũ hsü*, Tsinan, 1936, 5a.

^{36a} It should be noted that there are a few small square coins which bear the mint name of "Lin-tzũ," which was the capital city of the state of Ch'i during the Chou period. These coins have in the past been regarded by some numismatists as of Chou origin, but there is no proof for this dating. Because the epigraphical style of the legend shows a post-Han origin, the dating to the Chou period has been discarded by leading present-day numismatists. For a discussion of these and of other coins of the same type see Okutaira, *Tōa senshi*, VIII, 60a—62a.

them bear a legend which usually is of one character only. Among the 91 specimens in the collection of the American Numismatic Society, 27 specimens have no legend. Of the 241 specimens illustrated in the *Ku ch'üan hui* only 3 are without a legend. The characters of the various legends are usually the same as those found on the reverses of Early Knives. Some are numerals, some are from the "heavenly stems," some are from the "earthly branches," and some are other characters. While the reasons for their choice is still unknown, these characters are generally regarded as "serial marks." Chêng Chia-hsiang claims that some of them are *chu-yü* or "auspicious words."³⁷ In examining the 91 specimens in the collection of the American Numismatic Society, we found that those with the same character are of similar size and appearance, which may be taken to indicate that the characters are "serial marks" of one mint or identifying marks of different mints.

Among the Sharp-pointed Knives, there are only two specimens which have mint names as their legends, those of Lin and Liao.³⁸ The specimen inscribed with "Lin" is illustrated in the *Ku ch'ien ta-tz'ü-tien*, as no. 1232 (PLATE XLI, 3). That inscribed with Liao, or "Liao huo" (money of Liao) to give it in full, is reported by Chêng Chia-hsiang.³⁹ Lin was a town in the state of Chao during the Chan-kuo period, and Liao was a town in the northwestern part of the state of Ch'i.

Except for the legend, both sides of the blade of these knives are plain. Their handle is decorated with two parallel raised lines from end to end on both obverse and reverse. At the lower end of the

³⁷ Chêng Chia-hsiang, "Shang-ku huo-pi t'ui-chiu," *Ch'üan-pi*, No. 4, p. 33.

³⁸ Some of the single character "serial marks" may possibly be mint names, but cannot as yet be so identified. Chêng Chia-hsiang says the inscriptions of "yang" (character for positive element" in opposition to *yin*, "passive element") and "chung" (meaning "inside," "middle") are abbreviations for "Kao-yang" and "Chung-jên," names of two towns ("Kuan-wai ch'u-t'u chien-shou-tao t'o-pên hsü-yen," *Ch'üan-pi*, No. 10, p. 26). He offers no proof for his claim, and we find no evidence to believe it.

³⁹ Chêng Chia-hsiang, *ibid.* According to him, the legend reads "Liao huo" 聊化, and he suggests that the first character is an earlier form of 聊, which is acceptable.

handle is the ring. The ring and the handle are as thin and fragile as the blade and only remotely resemble either those of the real tool or those of the Early Knives.

Recently Chêng Chia-hsiang and Yü Yen reported discoveries of another type of Sharp-pointed Knives.⁴⁰ For the sake of convenience we designate these newly recovered knives as Sharp-pointed Knife II. According to Chêng Chia-hsiang, the characteristics of Type II are that its blade is comparatively shorter and that the sharp point of its blade is especially long.⁴¹ Yü Yen gives a similar description of those which he has seen.⁴² Chêng Chia-hsiang further reports that the handle of Type II is decorated with only one line instead of the two which appear on Type I,⁴³ while Yü Yen makes no mention of this. As to other particulars such as the characters used as legends, Type II does not differ from Type I except for slight variation in the epigraphical style.⁴⁴

According to the numismatists who provide us with the above information, specimens of Sharp-pointed Knife II were unearthed in Ch'êng-tê⁴⁵ and Chang-yüan.⁴⁶ Ch'êng-tê, located in southwestern Jehol, is the capital of the province. Chang-yüan (i. e., Chang-chia-k'ou), known in the West as Kalgan, is the capital of Chahar and located in the southern part of the province. Both places are not far from central Hopeh which has been reported as the provenance of the Sharp-pointed Knife I.⁴⁷ During the latter part of the Chou period, central Hopeh appeared to have belonged partially to Yen and partially to Chao. The areas around Ch'êng-tê and Kalgan were adjacent to the territory of the Yen state and might have been under its control if not actually belonging to it.

⁴⁰ Chêng Chia-hsiang, *ibid.*; and Yü Yen, 俞樾, "Liao-tung jui-fêng tao k'ao-shih," *Ch'üan-pi*, No. 24, pp. 1—3. ⁴¹ Chêng Chia-hsiang, *ibid.*

⁴² Yü Yen, *ibid.*

⁴³ Chêng Chia-hsiang, *ibid.*

⁴⁴ According to both Chêng Chia-hsiang (*ibid.*) and Yü Yen (*ibid.*).

⁴⁵ Chêng Chia-hsiang, *ibid.*

⁴⁶ Yü Yen, *op. cit.*, *Ch'üan-pi*, No. 25, p. 7, note.

⁴⁷ Li Tso-hsien is one of those who so report. For his reports see *Ku ch'üan hui, hêng*, IX, 1a—1b and *Hsü ch'üan shuo*, 1b.

Neither Chêng Chia-hsiang nor Yü Yen, who report the finds of Type II, illustrate any specimens.⁴⁸ Therefore, we have no way of ascertaining the accuracy of their observations. The American Numismatic Society has in its collection six specimens with points especially sharp and long. While in this respect they resemble Type II as reported by these numismatists, they differ from them in another: their handle has the design of two raised lines as found on Type I. Whether these six specimens are variants of Type II or constitute a third group cannot be determined at the present time.

The above may be summarized as follows:

1. Sharp-pointed Knives are of two types: Type I and Type II.
2. The blade of Type II is shorter than that of Type I but its point is much longer. Its handle is decorated with one raised line instead of two.
3. Type I was minted either by towns in the state of Chao such as Lin or by towns neighboring Chao such as Liao, or were discovered in the northeastern part of Chao or the adjacent areas. It appears to be predominantly of Chao origin.
4. Type II was unearthed in the areas which were adjacent to Yen or subjected to it. It appears to be a type of the region of Yen.

The size of Type I varies, though the great majority are similar. The *Ku ch'ien ta-tz'ü-tien* contains an illustration of a specimen (no. 1173; see PLATE XXXVIII, 2) which is 168 mm. long and 21 mm. wide, not much smaller than the large Early Knives and even longer than the small type of the Chi-mo knives. No. 1174 is similarly large, 157 mm. and 21 mm. respectively. The American Numismatic Society has four very small specimens. They measure 135, 134, 128, and 124 mm. in length respectively. They are as small as the Small Knives, the latest type of the late knives.

⁴⁸ According to the article by Chêng Chia-hsiang quoted above, he has compiled a catalogue of Sharp-pointed Knives discovered in Ch'êng-te, which, however has not been published.

B. The Ming Knives

The Ming knives are the most numerous and well-known of all Late Knives. They are so designated because they bear the character "Ming"⁴⁹ on their obverse. The character *ming* is made up of the signs for the sun and the moon and signified "bright," which is the usual meaning of the character. As a legend on knife coins it has puzzled many, and remains a subject of controversy. The point of dispute is whether "Ming" is the name of the mint. If it is, where was its location? If it is not the name of a mint, what is its meaning?

Up until very recently most, if not all, numismatists regarded "Ming" as the name of a town or mint. This opinion is supported by the way in which the legends of Early Knives and the spades are composed. We know that those legends are at least in part mint names.

Where then was the mint? Ch'u Shang-ling regards "Ming" as an abbreviation of "P'ing-ming."⁵⁰ "P'ing-ming" as the name of a city is found in the geographical section of the *Han shu*, referring to a city located in present northeastern Hopeh, which in ancient China belonged to the state of Yen. Ch'u Shang-ling asserts a place of this name might have existed during the Chan-kuo period. Thus he attributes the Ming Knives to the mint of "P'ing-ming" in the Yen state.⁵¹

Ma Ang disagrees with Ch'u's attribution. While also reading the legend "Ming" and regarding it as a geographical name, he contends that it is the name of a city in the state of Chao during the Chan-kuo period.⁵² To support his argument he quotes a passage from the *Shih-chi* to the effect that in 264 B. C. Ch'in conquered two cities of Chao, one of which is indirectly identified with Hsin-ming-i or "New Ming City." It is his opinion that originally the city was

⁴⁹ The same character has been read as *chü* 莒, *chao* 召 and *méng* 盟 by other numismatists, but such readings have been proven to be unfounded. See Cheng Chia-hsiang, "Ming tao chih yen-chiu" (A study of Ming knives), *Ch'üan-pi*, No. 1, pp. 29—36.

⁵⁰ Ch'u Shang-ling, *Chi-chin shuo-chien-lu*, 1827, IV, 1b.

⁵¹ *Ibid.*

⁵² Ma Ang, *Huo pu wén-lü k'ao*, 1842, II, 7a—7b.

called "Ming-i" or "Ming City" and that after its conquest by Ch'in, the victor added the character "*hsin*" for "new" to it. Thus Ma Ang attributes the origin of these knives to a town in the state of Chao.

Ma Ang's identification is more plausible than Ch'u Shang-ling's, for in abbreviating the names of cities or towns, it is always the first character that was retained, unless it is an adjective such as "old," and "new," "east" and "west," etc. The abbreviation of "P'ing-ming" into "Ming" contradicts this general practice of the ancients, as *p'ing* in "P'ing-ming" is not an adjective that could be omitted.

In an article published in 1940, Chêng Chia-hsiang challenges the interpretation of "Ming" as a mint name. He offers two arguments against it. First, the provenance of the knives bearing the legend of "Ming" is very widely spread, and they were found in places which were "several thousand *li*" from Chao where Ma Ang supposed they were cast. Secondly, some of the Ming knives preserved today have on their reverse legends such as *Ch'i huo* (Ch'i money) and *Ch'i huo kung-chin* (Ch'i money . . .) (See PLATE XLVI, 2). Such specifications of another place name on their reverse side contradict the idea that "Ming" is a mint name.⁵³ It is his opinion that "Ming" is the "general designation of the knives of Yen," adopted because, as he alleges, the character *ming* implies "abundance of wealth."⁵⁴ This opinion, however, cannot be confirmed.

Judging from their shape and reverse inscriptions, the Ming Knives are of three different types. Type I is angularly bent at the juncture of the blade and the handle and is inscribed with a serial mark on the back (see PLATES XLIII, 1-2; XLIV, 1); Type II has a mildly curved body and a serial mark on the reverse (see PLATES XLIV, 2; XLV, 1-2; XLVI, 1); and Type III has a similarly shaped body but a geographical name on the reverse such as "Ch'i" (PLATE XLVI, 2 and "Ch'êng-po" PLATE XLVII, 1). The serial marks on the reverse of Type I and II are the characters *tso* for left, *yu* for right,

⁵³ Chêng Chia-hsiang, "Ming tao chih yen-chiu," *Ch'üan-pi*, No. 1, pp. 30-31.

⁵⁴ Chêng Chia-hsiang, *op. cit.*, p. 34.

wai... for "outside...,"⁵⁵ and 𠂔.⁵⁶ On many pieces the serial marks appear alone, but more frequently are accompanied by another character or a numeral. Thus, for example, there are "Left one," "Left thirty," etc. Hence the common classification of the Ming Knives into "left series" and "right series". This, however, does not mean that Ming Knives of Type I and Type II bear no other reverse inscriptions than these serial marks.

Apart from the difference in shape (curved or angularly bent) and reverse inscriptions (serial mark or geographical name), the style of the legend "Ming" varies with different types. Three forms of the character are found: (1) flattish 𠂔, (2) round 𠂔, and (3) angular 𠂔. Forms 1 and 2 are the styles found on Type I and Type II, and form 3 is that found on Type III.

Many thousands of Ming Knives have been discovered in various parts of northeastern China and even in places beyond its borders. The finds sometimes contain a few pieces; sometimes they are hoards of large quantities. Ch'u Shang-ling reports that "in the ruined walls and abandoned wells of Ho-chien and I-chou they were frequently found, and many times by the thousands."⁵⁷ Both I-chou (present I) and Ho-chien were located in central Hopeh Province. The excavations by an archaeological mission led by Professor Ma Hêng in 1920 in I County uncovered "very many [Ming] knives."⁵⁸ Kuan Po-i discovered more than one hundred pieces in I-chou (present I County, to be distinguished from the one mentioned above) in southern Manchuria.⁵⁹ An unspecified number were discovered in

⁵⁵ "... " indicates a character which is not decipherable. Liu Hsin-yüan reads it as *lu* for "furnace" (*op. cit.*), Chêng Chia-hsiang (*op. cit.*, p. 35) and Okutaira (*op. cit.*, V, 55b—56a) follow him.

⁵⁶ This character is also undecipherable. Because there are the serial marks of "left," "right," "outside..." Chêng Chia-hsiang regards the character as *nei* meaning "inside" (*ibid.*). But this decipherment is absolutely impossible from the point of view of epigraphy. In the inscriptions on the bronze vessels of the Chou period the character *nei* for "inside" is never written in this form.

⁵⁷ Ch'u Shang-ling, *op. cit.*, III, 15a—15b.

⁵⁸ Fu Chên-lun, "Yen hsia-tu fa-chüeh pao-kao," *Kuo-hsüeh chi-k'an* 國學季刊, III (1932), 175—182.

⁵⁹ Kuan Po-i, *I-chou mêng-tao p'u* (Coole, No. 224), 1921, preface.

the remains of Old Han-tan in southern Hopeh.⁶⁰ Discoveries in Jehol and on the Liao-tung Peninsula are reported by Japanese archaeologists.⁶¹ Between 1912 and 1936 at least six finds were made in Heian Tao of northern Korea. Some of these were large hoards, of which one, found in bundles of five or six in a wooden box, consisted of more than 4,000 pieces.⁶² They are reported to have been discovered in southern Korea, Japan, and the Ryukyus,⁶³ but the conditions under which they were found in these districts are not clear.

A study of provenance in relation to the different types reveals several interesting points. The table on page 170 shows the local distribution of the different types.

During the later part of the Chou period, northern Hopeh and southern Manchuria were territories of the Yen state with the area of Jehol neighboring on its north and northern Korea on its east. Southern Hopeh and Shansi were roughly the territories of Chao, and northwestern, northern and eastern Shantung were those of Ch'i. Bearing this in mind we easily come to the conclusion that Type I and Type II were types in circulation in the region of Yen and adjacent areas, and Type III seems to belong to Chao and Ch'i. Chêng Chia-hsiang is the numismatist who for the first time systematically worked out the local distinctions of the Ming knife coinage.⁶⁴

⁶⁰ Komai Kazuchika 駒井愛和, "Kahoku-shō ni okeru iseki chōsa," *Kōkōgaku zasshi*, XXXI (1941), 395—396.

⁶¹ Their reports are scattered in the volumes of the *Archaeologia Orientalis*, series A, edited by the Tōa Kōkōgaku Kwai (Far Eastern Archeological Society) in Japan. Volume one, *P'i-tzū-wo*, 1929, contains statements on earlier discoveries (62) and a map showing their locations (Fig. 40, opp. p. 74). Later discoveries are found in other volumes. A summarized account of the finds has been given by Fujita Ryōsaku 藤田亮策 in his article, "Chōsen hakken no meitō-sen to sono iseki" in the *Shigaku Ronso*, (42—57), vol. 7 of the *Keijō Teikoku Daigaku Bungaku-kwai Ronsan*, 1938.

⁶² For the discoveries in northern Korea see Fujita Ryosaku, *op. cit.*, 5—41.

⁶³ Gotō Shuichi 後藤守一 reports the discovery of both Ming knives and An-yang late spades in Mihara 三原 in Japan (*Nihon Kōkōgaku*, 1936, 6th ed. 246). The discovery of the Ming Knife in Kōshin 康津 in southern Korea and in Nawa 那霸 on the Liu-ch'iu (Ryukyus) Islands is mentioned in *P'i-tzū-wo*, 62 and Fig. 40).

⁶⁴ "Ming-tao chih yen-chiu," *Ch'üan-pi*, No. 1, pp. 33—34.

Type	Shape	Style of the Legend Ming	Reverse Inscription	Distribution
I	angularly bent	flattish and round	"Left," "Right," "Outside . . .", and other characters	Hopeh, Jehol, Southern Manchuria, Northern Korea
II	mildly curved	flattish and round	same	same
III	mildly curved	angular	a geographical name with monetary designation	legends indicate Shantung, southern Hopeh and Shansi as area of minting

Special mention must be made of the late knives of T'an and the T'an type. Illustrations of these are on PLATES XLVII, 2; XLVIII, 1—2, reproduced from illustrations of nos. 1192, 1193 and 1194 in the *Ku ch'ien ta-tz'ü-tien*. These knives are exactly of the same shape of Type III of Ming Knives. Uncertain of their relation to other types of Late Knives, Chinese numismatists usually designate them vaguely in their coin catalogues as one of "Lieh-kuo tao" or "Knives of the various states."

According to Fêng Yün-p'êng, compiler of the *Chin shih so* in which these knives were first recorded, this group was unearthed in the neighborhood of Hsiang-yü-ts'un (Fragrant-valley village) in modern Po-shan in eastern Shantung.⁶⁵ The find, which consisted of "several hundred pieces," was obviously a hoard. This was the first discovery of these knives, and no later discoveries have been reported. Their illustrations, made from rubbings, do not show a legend on the obverse; but Fang Jo, who possessed several specimens, asserts that the legend is "Ming" as it appears on the Ming

⁶⁵ Fêng Yün-p'êng, 馮雲鵬 *Chin shih so* (Coole, 94), *Chin-so*, Section on old coins.

knife inscribed on the reverse with *Ch'i huo* (Type III).⁶⁶ On their reverses, all bear an inscription of three characters. The specimens shown on PLATES XLVII, 2 and XLVIII, 2 both have a numeral, *shih* (ten) and *sa* (thirty) respectively, at the end of the three-character legend. The inscriptions of these two specimens have been read by "some one" as *chu ch'iu ch'ang*⁶⁷ and that of the specimen shown in PLATE XLVIII, 1 is read by Ma Ang as *mai ch'ên wu*.⁶⁸ Epigraphically, the reading *chu ch'iu ch'ang* is absolutely impossible. While Ma Ang's decipherment of *ch'ên wu* appears justifiable, his decipherment of the first character as *mai* is problematical. Fang Jo suggests that the first character of the inscriptions of the specimens on PLATES XLVII, 2 and XLVIII, 2 is *T'an*, a variant form of the *T'an* which is the first character in the legend of the fragmentary *T'an* knife previously discussed. He even goes so far as to claim that the first character in the inscription of PLATE XLVIII, 1 to be a variant of the same character.⁶⁹ Because he reads the character *T'an*, he comes to the conclusion that these knives were issues of the town (or district) by this name.⁷⁰ Although his treatment of the first characters of all the three varied inscriptions does not seem to be warranted, his reading of first characters of two of the inscriptions as *T'an* is plausible, as also is his suggestion that these knives are currencies of a town or district by this name. His suggestion is strengthened by the fact that these knives were unearthed in Po-shan, a modern county which was adjacent to the capital of the ancient *T'an*⁷¹ and which might have been well within the area under *T'an* jurisdiction.

The interesting point is that these knives are of the same shape and size as the Ming Knives inscribed with *Ch'i huo* (money

⁶⁶ Quoted in the *Ku ch'ien ta-tz'ü-tien*, VIII, 67a—67b.

⁶⁷ Quoted by Fêng Yün-p'êng, *ibid.*

⁶⁸ Ma Ang, *Huo pu wen-tz'ü k'ao*, I, 21b—22a.

⁶⁹ Quoted in the *Ku ch'ien ta-tz'ü-tien*, VIII, 67b.

⁷⁰ *Ibid.*

⁷¹ For the location of the ancient city of *T'an* see Tung Tso-pin, "Ch'êng-tz'ü-yai yü Lung-shan-chên," *Ch'êng-tz'ü-yai*, 1934, 96—97.

of Ch'i) on reverse, and, like the knives of Ch'i, those of T'an bear the geographical or mint specification on the reverse. Even if "Ming" does not appear on their obverse, as on the Ming Knives of Ch'i, we can be fairly sure that in all other respects the knives of these two places are closely related, just as are the geographical locations of the two mints or districts.

C. The Small Knives

PLATES XLVIII, 3; L, 2—5

As implied in the name, chosen for the sake of convenience, the knife coins belonging to this group are very small and very thin; they are even smaller and thinner than Sharp-pointed Knives. Different from other groups of knives, these have the appearance of being straight which is the reason Chinese numismatists call them "small straight knives." Many of them bear a legend on the obverse side of their blade, but many more do not. The handle on the obverse side is decorated with two parallel lines from end to end except for the group inscribed with "Ch'êng-po" which has only one line. The reverse side of both their blade and handle are plain. The raised border lines which are conspicuous on Early Knives, retained partly on Sharp-pointed Knives, can still be seen on this group of coins. The "serial marks" and the "numerals" which are found on both the Early and Sharp-pointed Knives disappear completely.

The legend is always the name of a city. The names of five cities or towns have been found: Han-tan 甘丹 (i. e., 邯鄲 PLATE XLVIII, 3); Po 白 (PLATE XLIX, 3); Ch'êng-po 成白 (PLATE XLIX, 4), Lin 蘭 (i. e., 蘭 PLATE L, 5); and Chin-yang 晉陽 (陽) (PLATE L, 2—4) sometimes abbreviated as Chin. The American Numismatic Society has 42 Han-tan knives, 59 Po knives and 3 Ch'êng-po knives. An illustration of one specimen of Lin is in the *Ku ch'ien ta-tz'ü-tien* (no. 1231 in Vol. VII). Those of Chin-yang and Chin are found in the *Yüeh-yü ku-huo tsa-yang* and the *Toa senshi* (V, 69a). Actually the small knife of Lin appears a little more curved than

the others, but because it is small and shows the tendency of being straight, we have included it in this general category.

Chin-yang and Han-tan were capitals of the state of Chao at different times, and were located in central Shansi and southern Hopeh respectively. Lin, a town of Chao, was situated on the eastern bank of the Yellow River in western Shansi. Po and Ch'êng-po cannot be located, but they appear to be towns of the Chao state also.

The knives of Chin-yang (also abbreviated as Chin) and Po also have the character *huo* 化 (i. e. 化) in their legends in addition to their mint name (PLATE L, 2—4). As has been indicated, *huo* is the monetary designation of the knife coinage. One Chin-yang specimen has the inscription *hsin-huo* 辛 (新) 化 (new *huo* or money) instead of *huo* alone (see PLATE L, 4). It must have been so specified to distinguish the issue from earlier ones.

D. Date of the Late Knives

Like other questions of chronology in Chinese coinage, the dating of the Late Knives is fraught with difficulty. Again, we are handicapped by lack of literary information and reliable archaeological reports on coin discoveries. Except for the Late Knives of Lin, we shall have to make use, as best we can, of any indication, however indefinite, we can gather from the coins themselves.

As has been mentioned, some numismatists hold the opinion that the Ming Knives were a coinage of Yen. Therefore they propose that the Ming Knives which are inscribed *Ch'i* on their reverses were issued by Yen for circulation in the *Ch'i* area.⁷² Their reasoning runs as follows: During the Chan-kuo period (403—221 B. C.) *Ch'i* and Yen waged many wars against one another, with *Ch'i* being usually the victor. In 284 B. C. Yen launched a large scale expedition against *Ch'i* and occupied the whole state except for the cities of Chi-mo and Chü on its eastern and southern borders (before this date *Ch'i* had annexed the ancient states of Chi-mo and Chü). Yen

⁷² See for example, Chêng Chia-hsiang's article on Ming Knives in *Ch'üan-pi*, No. 1, p. 36.

had Ch'i under the control of its armies for some five years, from 284 to 279 B. C. Because of this fact Chinese numismatists hold the opinion that the Ming Knives with the inscription of "*Ch'i huo*" (Ch'i money) on the reverse must be the occupation issues cast by Yen during the period of its control of Ch'i. This explanation would make us believe that the "*Ch'i huo*" Ming Knives were coins of the beginning of the third century B. C.

While this interpretation is possible, it is equally possible that the Ming Knives of Ch'i may have been issues of the central or local authorities, or even individuals of the state, having no relations with Yen. As has been discussed before, "*Ming*," the legend, does not seem to be a mint name; it appears to be a common designation of a large group of Late Knives cast and circulated in the great part of ancient China along the lower stretches of the Yellow River. It could have been equally possible that the legend was first adopted by the Ch'i people, with the Ming Knives of the Yen region as a later development. The shape and the design of the Ch'i Ming Knife, both of which show closer affiliations with the Early Knives of Ch'i and other states on the Shantung Peninsula, support our assumption.

Of the same shape, design and size is the specimen of the Ming Knife of Ch'êng-po illustrated in the *Ku ch'ien ta-tz'ü-tien* (IV, no. 1065). This knife, likewise, differs from the smaller Ming Knives discovered in the Yen areas. Naturally it was not a piece of Yen currency. If the interpretation advanced by Chinese numismatists explains the origin of the Ming Knife of Ch'i, it cannot be used to explain the origin of the Ch'êng-po knife.

The Ming Knife inscribed with "*Ch'i huo*" was later, and much later, than the Early Knives. This is beyond any question. The adoption of the legend of "*Ming*" on the obverse, the inscription of the state name on the reverse, and the smallness of its size (143 mm. long compared with the Early Knife's average length of 170) are the undeniable evidences. Although we cannot assign a definite date to the casting of knives of this type, we may not be far from the truth if we regard it as around the beginning of the Chan-kuo period.

With regard to the problem of the date of the Late Knives, the Sharp-pointed Knife of Lin offers a more satisfactory solution. As has been discussed before, Lin was seized by the ancestors of the ruling house of the state of Chao from the barbarian Ti people not earlier than 430 B. C. Therefore, its coinage cannot be earlier than this date. This opinion, of course, presupposes the non-existence of metallic coinage among the Ti people, who are said to have been itinerant cattle-breeders. We may assume then that the Sharp-pointed Knife of Lin was a coinage around 400 B. C. or later.

As we know, Lin has two types of knife coins, the Sharp-pointed Knife and the Small Knife. The Small Knife of Lin is obviously later than the Sharp-pointed Knife, but earlier than its round coin. The appearance of the round coinage in ancient China was close to the end of the Chou period about 250 B. C. (see section on round coins). If we could tentatively assign the date of 300 B. C. to the Small Knife of Lin, we may further narrow down the date for its Sharp-pointed Knife to between 400 and 300. However, whatever its date, the Lin Sharp-pointed Knife cannot be taken as the beginning of this type of the knife coinage. The reason is that Lin, being a town newly conquered from a non-Chinese people or newly established in the northwestern border region of ancient China, could not have been the seat of a new coinage; in other words, its Sharp-pointed Knife must have been an adoption of a coinage which already had been in circulation in the interior of China. Therefore we may not be far from the facts to say that the commencement of the Sharp-pointed Knife may go back to the fifth century or earlier.

Finally, it may be worthwhile to point out that, in our opinion, Sharp-pointed Knives seem to be a local variety of the Late Knife coinage, contemporary with the Ming Knives, particularly those of Type III inscribed with "*Ch'i huo*" and "*Ch'êng-po huo*." There are three reasons. First, the Sharp-pointed Knives have never been reported to have been discovered in Shantung where the Ming Knife III and the T'an Late Knife (which is of the same design save for the legend and similar size as Ming Knife III) circulated; secondly,

mints such as Lin, which cast the Sharp-pointed Knife and the Small Knife are not found to have cast the Ming Knife; thirdly, Li Tso-hsien reports that a hoard composed of Ming Knives and Sharp-pointed Knives was discovered in the neighborhood of the imperial capital of Peking in the Tao-kuang period, as has been mentioned before. Some of the specimens from the hoard which he later obtained must have been illustrated in the Sharp-pointed Knife section of his coin catalogue, although he does not specify any particular specimens as such.

E. Expansion of the Knife Coinage

In dealing with the Early Knives we found that the knife was exclusively a coinage of the states on the ancient Shantung Peninsula. How, then, did it happen that a later date, say from the fifth century on, the Late Knife coinage came to be the coinage not only of the Shantung Peninsula, specifically of the state of Ch'i, but also of the regions of Chao and Yen? In answering this question we will find that at about the end of the Ch'un-ch'iu period (481 B. C.) the knife coinage of Ch'i had spread beyond its borders and penetrated areas where the spade had been the sole type of metallic currency.

The states of Chao and Yen were to the west and northwest of the borders of Ch'i. One of the Chao cities which adopted the knife coinage was Han-tan located southwest of its present county seat namesake in southern Hopeh close to the border of Ch'i. From 386 B. C. onwards it was the capital of the Chao state and was one of the few important cities mentioned by Ssü-ma Ch'ien in his historical account of the development of trade and industry. It was an iron producing center and a trading center for the handicraft products of that region, especially for the area to its north. Among the preserved coins of Han-tan there are Type I of Hollow-handle Spade recorded by Li Tso-hsien,⁷³ Type I of the Late Spade

⁷³ *Ku ch'üan hui*, yüan XIV, 7b—8a. In a previous publication ("Distribution of Coin Types in Ancient China," *Museum Notes*, III, 131—150) we have used a specimen

(PLATE XX, 4) and the Small Knives (PLATE XLVIII, 3). As the latest Hollow-handle Spade, such as that of the Eastern Chou dates no later than 400 B. C. and the date of the Hollow-handle Spade of Han-tan may go back to the early years of the Chou period, and as the Small Knife, the latest of all knife coinages, cannot be earlier than 400 B. C., it is evident that Han-tan had been issuing spade coins as its currency at an early date, and its Small Knife coinage was obviously a later adoption.

The reason for the adoption of knife coinage by cities of Chao cannot be stated with certainty. Probably it was caused by the expanding economic and military power of Ch'i where, ever since the establishment of that state, knife coins had circulated exclusively. By the beginning of the fifth century, Ch'i seems to have conquered and annexed practically all the states to its east, T'an in 684 and Lai and T'ang in 567 and extended its borders into the very heart of Chi-mo before 522. It thus monopolized the fishing industry and the production of salt from the sea, and stimulated production in fields of handicrafts, such as silk. As trade in these commodities developed, "both people and wealth came to it," to use Ssü-ma Ch'ien's words.⁷⁴ "They (people) came carrying their children on their backs and converged on it like the spokes of a wheel." "As a result, Ch'i provided the world with hats, sashes, clothes and slippers. The people between the sea and Mount T'ai (in central Shantung) came hand in hand to pay their homage."⁷⁵ The state of Ch'i remained "wealthy and powerful through the reigns of King Wei (357—320 B. C.) and King Hsüan (219—201 B. C.)."⁷⁶ At the time of King Hsüan, Lin-tzù, the capital of the state, became perhaps the richest and the most prosperous city in the world then known to the Chinese. The traffic on the roads to Lin-tzù was so crowded that, in the words of Su

recorded in Okutaira, *op. cit.*, II, 112a for illustration of the Hollow-handle Spade of Han-tan. The choice of that specimen was for technical reasons. Okutaira's decipherment of the legend on that specimen as "Han-tan," may not be correct, therefore we have decided to use here the specimen recorded in the *Ku ch'üan hui*.

⁷⁴ *Shih-chi*, CXXIX, 2b.

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*

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Ch'in (d. 317 B. C.), the wheels of carriages bumped on each other, and the shoulders of the people rubbed one another. This developed commerce was the reason why the year's revenue from the taxes on the market which Duke Huan bestowed upon Kuan Chung made the minister richer than the prince of a state. Therefore, in 288 B. C. only Ch'i could compete with the all powerful state of Ch'in, and its ruler assumed the title of *Ti* (Emperor) to match the ruler of Ch'in who had adopted the same title. It is only natural that the power of Ch'i exerted great economic influence on its neighbor and caused Chao to cast knife coins so as to facilitate trade with Ch'i. Like Hantan, other cities and towns in the state of Chao must have also adopted the knife coinage. Two of these, Chin-yang and Lin, have been discussed before. Unfortunately, knife coins of other Chao towns, if they existed, have not come down to us.

What has been said of Chao applies also to Yen; only in this case a more intimate relationship is witnessed by many events, some of which are wars. The early relations between Yen and Ch'i are not recorded. During the period of the hegemony of Ch'i, Yen was under its friendly influence. On behalf of Yen, Duke Huan repelled the invasions of the Ku-chu people from the northwest. On Duke Huan's return the ruler of Yen escorted him with great respect across the border of his own state into Ch'i. In later years the peaceful domination of Yen by Ch'i gave place to wars, the first one of which on a large scale seems to have started in 536 B. C. when the prince of Ch'i attacked Yen. During the Chan-kuo period Ch'i and Yen were in constant struggle with each other. In 333 B. C. Ch'i armies fell upon Yen and conquered ten cities of the latter; in 314 B. C. Ch'i again attacked, caused the death of its king and the heir-apparent, and brought the state under Ch'i's control. Ironically enough, wars, in spite of their destructiveness, are sometimes carriers of civilization and agents of further economic development. In addition to the commercial contact between the two states, which must have been frequent and close at the time, struggles either diplomatic or military may have contributed much to the adoption by one of the coinage

of another. In this case again, the state which exerted the greater strength was Ch'i.

Such may be the conditions under which the knife coinage of Ch'i spread into Chao and Yen, and became a dominant currency in what is now known as the whole of north China, southern Manchuria and even northern Korea. We use the word "dominant" advisedly, because the towns of Chao and Yen, both originally in the spade area, did not abandon their old coinage after adopting the knives for trading purposes. Chin-yang and Lin may be cited as examples of mints for which Late Spades and Late Knives exist, both dating in the fourth and third centuries. When later the round coinage made its appearance in the old spade area towards the end of the Chan-kuo period, the monetary unit was still the *chin* of the spade coinage and not the *huo* which was the monetary designation of the knife and the monetary unit of the round coinage on the old knife area.

VI. THE "YÜAN CHIN" OF CH'U

PLATE LI, 1—5

We have found that the knife was originally a coinage of states on the Shantung peninsula and that the spade was the same for the royal domain of Chou and the states of Chin, Chêng, Wei, Sung, Lu and other minor feudatories. During the Chan-kuo period, knife coinage was adopted by Chao and Yen for use alongside their original coinage of spades. There was one large area, the state of Ch'u,¹ in which neither knife nor spade coinage circulated. Some scholars, among them Lo Chên-yü, believe that Ch'u, being a state of southern barbarian origin, had no coinage of its own.²

During the period of the Sung dynasty, however, small flat pieces of gold bearing stamp-like marks were found within the Chin area. Their discovery was first reported by Shên Kuo (1030—1094), who states that they were found in considerable numbers on the slopes of the Pa-kung Hills, in the Huai River and in the valley streams of Shou-chou (present Shou County in central Anhui Province).³ The popular explanation first made of these pieces was that they were the so-called "medicine gold" of the Taoist king of Huai-nan, named Liu An (d. 122 B. C.), of the Han period.⁴ He is said to have attempted to extract a potion for longevity from gold. This traditional explanation prevailed until 1878 when Fang Chün-i, a noted epi-

¹ Originally Ch'u was a small state above the Yangtze River in Hupeh Province. In the course of time it expanded constantly at the expense of its northern and eastern neighbors until during the Ch'un-ch'iu period its territory roughly covered the entire province. During the Chan-kuo period its boundaries expanded to Kiangsu in the east, southern Shantung in the northeast, and central Honan in the north.

² *Yung-lu jih-cha*, 17a.

³ Shên K'uo 沈括 *Mêng-hsi pi-Pan*, *Ssü-pu pei-yao* ed., second series, XXI, 4a—4b.

⁴ *Ibid.*

graphical scholar, on deciphering their inscriptions concluded that they were money of Ch'u.⁵

The inscriptions are the so-called "stamps." They are of three varieties: *Yin yüan* 鄢爰 (Yüan of Yin), *Ch'ên Yüan* 陳爰 (Yüan of Ch'ên) and, as some numismatists assert, *Shou-ch'un* 壽春. *Yüan* was a unit of weight as well as a monetary designation or unit in ancient China. As a monetary unit in literary sources it first appears in the Lü-hsing chapter of *Shang-shu*. It is as a monetary unit or designation that it must have been used on the "Yüan Chin."

The presence in the "stamps" of the names of Ying and Ch'ên, cities of the kingdom of Ch'u, led Fang Chün-i to the conclusion that these gold pieces were the official currency of that state. Ying, an ancient city located north of the county seat of modern Chiangling in southern Hupeh on the Yangtze River, was an early capital of the state of Ch'u. Ch'ên, the modern county seat of Huai-yang in eastern Honan, became the capital of Ch'u in 278 B. C. Fang's attribution is confirmed by the fact that the majority of finds of "Yüan Chin" have been made in the area around Shou-ch'un, the state's last capital. Shou-ch'un, a city located in the present Shou County in central Anhui, was the capital of Ch'u from 242 B. C. to 223 B. C. when Ch'u was conquered by Ch'in.

The original name of this money is not known. Up to the present, Chinese numismatists have not found a completely satisfactory appellation for it. Popularly, it has been called *yin-tzũ-chin* 印子金 (stamped gold), *ping-chin* 餅金 (gold plate) and *chin-ping* 金餅 (gold plate).⁶ Fang Chün-i identifies it with the *ping-chin* 餅金 mentioned in the *Erh-ya*. Because the *Erh-ya* states that "*Ping-chin* is called *pan* 鈔" and the character *pan* might be written as 版, he further identifies the money with the *chin-pan* 金版 mentioned in the *Chou li*.⁷ In this work it is said when the *lũ* sacrifice was offered

⁵ Fang Chün-i 方濬益, *Chui-i-chai i-ch'i k'uan-shih k'ao-shih* photostat ed., 1935, 28a—29a.

⁶ See Shên K'uo, *ibid.*, and Lo Chên-yü, *Chin ni shih hsieh*, 1917, note at the end of the work.

⁷ Fang Chün-i, *op. cit.*, 29a.

to the "God on High," the *Chih-chin* (keeper of gold) presented his *chin-pan*. *Chin-pan* here may be rendered as "gold plate."

We hesitate to accept Fang's identification for the following reasons. First, there is no proof for the identification except the similarities between the popular names of this money and the terms found in the *Erh-ya* and the *Chou li*. Secondly, even if the *Chou li* statement is reliable, it is rather inconceivable that the "Son of Heaven," or the "Heavenly King" as the king of Chou was also called, should offer the "God on High" money of one of his vassal states. Thirdly, in all probability the *chin-pan* recorded in the *Chou li* was gold bullion cast in the form of plates like some of the silver ingots of the T'ang period.

Some Chinese historians⁸ have accepted Fang Chün-i's suggestion though Chinese numismatists have not followed it. Numismatists such as Lo Po-chao and Wang Yin-chia call the Ch'u money *yüan chin*, or "yüan money."⁹ The popular name, *ping-chin* or *chin-ping*, both of which may be rendered "gold plate" or "metal plate" may be more practical, but scientifically the appellation *yüan-chin* seems preferable. Needless to say, it cannot be considered to be the original name of the currency at the time of its use.

Most of the *yüan chin* of Ch'u unearthed to date are of gold. Those reported by Shên K'uo, Fang Chün-i and Lo Chên-yü are all of this precious metal.¹⁰ Wang Yin-chia reports in 1943 that a man named Kung, a native of Ho-fei, Anhui, "gathered more than thirty pieces,"¹¹ all of which seem to be of the same metal judging from the name he gives for them, *chin yüan* or "gold yüan." In his work, *Hêng-chai chin shih shih hsiao-lu*, Huang Chün illustrates a specimen which is said to be of copper and another which is noted as of lead.¹² Shang

⁸ Such as Shang Ch'êng-tsu 商承祚 and Ch'ên Mêng-chia (See the preface and pp. 53a—54a of *Ch'ang-sha ku-wu wen-chien chi* by Shang Ch'êng-tso, 1939).

⁹ Wu Ta-ch'êng, *Ch'üan-hêng tu liang shih-yen k'ao*, 1915, 63b and 66a.

¹⁰ Lo Po-chao 羅伯昭, "Ying yüan chin," *Ch'üan-pi*, No. 17, pp. 19—20.

¹¹ Wang Yin-chia 王蔭嘉 "Ho-fei Kung-shih ts'ang chin-yüan t'o-ts'ê pa," *Ch'üan-pi*, No. 19, p. 23.

¹² Huang Chün 黃濬, *Hêng-chai chin-shih-shih hsiao-lu*, 1935, 15a—17b.

Ch'êng-tso mentions a silver piece with the "stamp" of *Ying yüan* in the possession of Ts'ai Chi-hsiang.¹³

Clay imitations of the *yüan-chin* have been discovered in Ch'ang-sha, Hunan, in the Ch'u tombs of the Chan-kuo period. In his work, *Ch'ang-sha ku-wu wên-chien chi*, Shang Ch'êng-tso reports that many clay imitations have been found, and that he himself has seen a few. One piece, with sixteen "stamps," measures 65 mm. long, 64 mm. wide, and 5 mm. thick. Like the original, each "stamp" contains two characters which read *Ying yüan* in reverse. The other pieces are broken, bearing the same "stamp." All of them are of "yellow earth," to make them, as Shang Ch'êng-tso explains, resemble the real gold pieces. As he has also pointed out, they were made for use as funeral money (53a-54a). Ch'ên Mêng-chia declares that the Ch'ang-sha tombs of Ch'u probably belong to the reign of King Huai (328—299 B. C.), before the state moved its capital to Ch'ên in 278 B. C. And that is reason, so he says, why in those tombs only the imitations of the *yüan chin* of Ying were discovered (See Ch'ên's preface to Shang's work).

We have no way of determining the authenticity of the copper and the lead specimens. Even if they are genuine, we are still ignorant whether they were actually used as money. Shang Ch'êng-tso asserts that they are funeral money made for those who could not afford to use the real gold currency for burial purposes.¹⁴ This may or may not be true. If copper and lead pieces were funeral money, the same cannot be said of the silver specimen (if it is genuine) reported by him. While it is not entirely impossible that Ch'u had a multi-metallic currency, it is interesting that the specimens of the Ch'u money preserved today are chiefly of gold.

According to the literary sources of the Chou period, gold was used as a medium of exchange in all of ancient China. But the *yüan chin* of Ch'u are the only specimens in the form of a currency that have come down to us. If other regions used gold at all, it must have been in bulk form as bullion. That Ch'u used gold as currency

¹³ Shang Ch'êng-tso, *op. cit.*, note to the preface by Ch'ên Mêng-chia.

¹⁴ *Ibid.*

seems natural, as from remote antiquity the area south of the Chiang (Yangtze River) was known as a source of gold supply. In the *Shih ching* the metal which the Huai barbarians offered to Lu as tribute is called *nan-chin*,¹⁵ which term can be interpreted as meaning "gold from the south." In the *Yü-kung*, a chapter in the present text of the *Shang-shu*, and the *Shih-chi* the metal is called *huang chin* or "yellow metal."¹⁶ The *Kuan-tzŭ* states that the *chin*, i. e., *huang-chin*, was produced in the regions of the Ju and the Han Rivers,¹⁷ both in the territory of Ch'u. Inscriptions of four Chou bronzes record the capture of *chin* in the military campaigns against the "Southern Huai Barbarians," the K'uai and the Ching (i. e. Ch'u).¹⁸ It is not impossible that this metal was gold.

The *yüan chin* vary in size. The smallest bears one stamp-like mark which contains the name of its mint and its monetary designation, *yüan*. One such piece may be regarded as a unit. Larger pieces bear two or more identical stamps and are thus to be considered as multiples. There are known so far pieces of two, six, fourteen and sixteen units.¹⁹ Shên K'uo reports one gold piece with "more than twenty stamps."²⁰ Lo Po-chao may be correct in his opinion that the larger pieces, in actual use, were broken into different-sized denominations as desired.²¹ However, there is one point against his suggestion, the fact that, as far as available information shows, no two units have been found of the same weight. Fang Chün-i weighed five specimens all of which are one-stamp pieces. The following are their weights.²²

¹⁵ XX, 4b. ¹⁶ *Shang-shu*, *Ssŭ-pu pei-yao* ed., III, 3a and *Shih-chi*, CXXIX, 1b.

¹⁷ *Kuan-tzŭ*, XXIII, 2a and 3a.

¹⁸ Wu Shih-fên 吳式芬 *Chün-ku-lu chin-wên*, 1895, II, Part 3, 84a and Kuo Mo-jo, *Liang-chou chin-wên-tz'ü ta-hsi k'ao-shih*, 28, 54, and 146.

¹⁹ The "two unit" piece is reported by Lo Chên-yü (*Chin ni shih hsieh*, I, 1a) and the "six unit" and "fourteen unit" by Fang Chün-i (*op. cit.*, XXIX, 32a).

²⁰ Shên K'uo, *ibid.* (See above, note 3).

²¹ Lo Po-chao, *ibid.* (see above, note 10).

²² Fang Chün-i, *op. cit.* (see above, note 5), XXIX, 28a—31b.

<i>Stamp</i>	<i>Condition</i>	<i>Weight</i>	<i>Conversion into grams</i>
Ying yüan	complete	0.47 <i>liang</i>	17.531
"	"	0.3	11.19
"	"	0.4 +	14.22 +
"	small piece		
	broken off on top	0.22	8.206
"	"	0.4 —	14.22 —

The fact that the *yüan-chin* of one "stamp" or one denomination varies in weight need not necessarily negate Lo Po-chao's suggestion, for it would be well-nigh impossible to break from a large piece small ones of uniform weight or size.

The monetary unit *yüan* appears also to have undergone considerable reduction in weight in the course of many centuries. Wu Ta-ch'êng states that he measured one *yüan chin* with the legend of *Ying yüan*, which is said to have been discovered in Fêng-t'ai County in northern Anhui. Its weight is 1.96 *liang* in the local scale of Hunan,²³ his native province. According to the weight of the one-*liang* silver dollar of Kashgar struck in the Hunan scale by Tso Tsung-t'ang,²⁴ a general and statesman from Hunan at the end of the Manchu dynasty, 1.96 *liang* is 73.155 grams. This is incomparably heavier than any of the pieces weighed by Fang Chün-i, and the size of its illustration given by Wu is also much larger. If this specimen is genuine, then it must be an early issue because of its heavy weight; for it is only natural to assume that coins of heavier weight are earlier than those of lighter weight.

However, the information about the *yüan-chin* is so scanty that it is advisable to restrain speculation. At the moment we may have to satisfy ourselves with this superficial observation that the *yüan-chin* were a money of the Ch'u state, that *yüan* in the legend appears

²³ Wu Ta-ch'êng, *op. cit.* (see above, note 9), 66a.

²⁴ The information is kindly furnished by Mr. Richard D. Kenney of The American Numismatic Society.

to be both a monetary designation and a monetary unit, and that the weight of the money might have decreased some time after the coinage was established.

When was the coinage established? Here we face the same difficulties we have faced in considering the origins of other coinages. The reason is obvious; there is simply no information. Above we have found that Ying and Ch'ên in the legends of the *yüan-chin* were capitals of the state of Ch'u at different times, and that as capital of Ch'u, Ying was much earlier than Ch'ên. Thus by finding the date at which Ying became the capital of Ch'u we may be able to set the earliest limit for the coinage of the *yüan-chin*.

In early Chinese historical literature there are two different statements on the date of the establishment of Ying as Ch'u's capital. The *Shih-pên* is quoted to have recorded it as during King Wu's (740—690 B. C.) time,²⁵ and Ssü-ma Ch'ien and Pan Ku report that it was during King Wên's (689—677 B. C.) reign.²⁶ In any case the date cannot be earlier than 740 B. C., and this then, may well be taken as the earliest possible date for the appearance of the *yüan-chin*.

The date of establishment of Ch'ên as the capital may serve as the clue to how long the *yüan-chin* coinage was in circulation. It is, of course, the assumption that the Ch'ên in the legend of "Ch'ên yüan" was the Ch'ên which became the capital of Ch'u in 278 B. C.²⁷ Ch'ên remained the capital probably until 242 B. C., when it was superseded by Shou-ch'un. While the date of the abandonment of Ch'ên as the capital of Ch'u cannot be taken as the terminal date for the use of *yüan-chin* in Ch'u it does indicate that as late as 243 B. C. the *yüan-chin* was still in circulation.

²⁵ Quoted by Ku Tung-kao, *op. cit.*, VII, 4, 1a.

²⁶ *Shih-chi*, XL, 5b; *Han shu*, XXVIII, Part 1, 14a.

²⁷ There is the possibility of course that the *Ch'ên yüan* money may have appeared before Ch'ên became the capital of Ch'u, because Ch'ên was an old city, at least as old as the Chou dynasty.

VII. THE ROUND COINAGE

PLATES LI, 6—8; LII—LV

The round coin, the last type to appear in the Chou period, circulated in both the spade and the knife areas. With its appearance China entered the period of monetary unification which heralded the unification in political organization accomplished in 221 B. C.

Round coins of the Chou period had a regional individuality similar to that manifested in the coinages before, namely, the spade in the west and the knife in the east. While there is a plain reverse on all the round coins, major differences occur in their monetary units and the shape of their central holes. In the west the monetary unit is either the *chin* or the *liang*, both of which are units of spades of two districts within that area. The central hole is round with some later issues having a square hole. In the east, the monetary unit is the *huo*, which is the exclusive monetary designation found on the knives. The shape of the central hole is square. So far, not a single specimen in the knife area has been reported with a round central hole. With these local characteristics in mind, reconstruction of the round coinages of the Chou period will be easier.

I. THE ROUND COINS OF THE KNIFE AREA

PLATES LI—LII

In the knife area, the round coins preserved today are those with the legends of "I Huo" 一化 (one *huo*), "Ming Huo" 明化 (Ming *huo*), and "I Huo" 隘化 (*huo* of I). Of the three inscriptions the last is the most important in determining whether or not these round coins are of the knife area.

A. Round coins of I (PLATE LI, 6—9). These coins are of various sizes with correspondingly different denominations. All of them

have a square central hole and a plain reverse. Except for some of the one-unit coins, found in the collection of The American Numismatic Society, all have rims around both the central hole and the outer circumference.

The legend on the coins is made up of the monetary unit *huo* and its denomination, and the mint name I 𠄎 (𧇔 in modern script). In the past the character for the mint name has been read as *pao* 寶 by most numismatists, as *p'êng-pei* 朋貝 by Ts'ai Yün,¹ and as *yen* 燕 by Ma Ang;² but all of these readings have been proved incorrect.³

The reading as *pao* is based on the result of a superficial resemblance of the character for the mint name I to the character for *pao*, and of an inference from a statement made by Pan Ku (32—90). In the *Han shu* (*History of Han*) Pan Ku says that the "big coin" cast by King Ching of Chou in 524 B. C. was inscribed *pao huo*.⁴ Because of this reference and the resemblance between the *i* and *pao* characters, numismatists have readily believed that the coin inscribed with I *Huo* was the Chou coin inscribed with *pao huo*. This belief was first expressed by Hung Tsun and is still cherished by some contemporary numismatists, among them the noted Chêng Chia-hsiang.

Pan Ku's statement was rejected by Wei Chao (third century) as "not factual,"⁵ and proved beyond any doubt as false by Ts'ai Yün and Sun I-jang (1848—1908), both historians and epigraphers with considerable knowledge of coins. Sun I-jang points out that the character *i*, mistakenly read by numismatists as *pao*, is structurally completely different from the latter character as it appears in the inscriptions on Chou bronzes.⁶ Considering the various forms of the character *i* in the *Chou wén*, the *Shou-wén chieh-tzŭ* and

¹ Ts'ai Yün, *P'i-t'an*, II, 10a—10b.

² Ma Ang, *Huo pu wén-tzŭ k'ao*, II, 21b.

³ See Sun I-jang 孫詒讓 "Chou ta-ch'üan pao-huo k'ao," *Chou-ch'ung shu-lin*, 1916, VII, 34a—34b, and also Okutaira, *Toa senshi*, VI, 29b—31b.

⁴ *Han shu*, XXIV, Part 2, 1b.

⁵ *Kuo-yü*, III, 11a, note.

⁶ Sun I-jang, *ibid.* For the various forms of the character *pao* in the inscriptions of the Chou bronzes see Jung Kêng, *Chin wén pien*, VII, 22a—25a.

the *Han shu*, he concludes that the character on the coin must be the old form of 𧇛, pronounced the same.⁷ By old form he means the original form of the character without the component *pei* 貝 (cowry) as it appears in the legend on some of the Hollow-handle Spades.⁸ The component *pei* is a later addition, which does not alter the meaning of the character.⁹

I as a geographical name is not found in Chou literature, but Ting Fu-pao found a county of Han by this name in the geographical section of the *Han shu*.¹⁰ The county seat, I, was located northwest of the county seat of present Shou-kuang in northeastern Shantung. Most likely the town existed during the Chou period in the territory of the state of Ch'i. Thus I is found to be a town in Ch'i during the Chan-kuo period.

The belief that I was in the territory of Ch'i has been previously expressed by Liu Hsin-yüan, whose conclusion is based on the provenance of the moulds of the coins of I and on a pottery jar with the stamp "i"¹¹ which was found in Wei County, southeast of the ancient town of I.¹² Moulds of the I coins of the "four *huo*" and "six *huo*" denominations are reported by Li Tso-hsien to have been found "on the coast of the eastern sea" (meaning the Shantung Peninsula).¹³ Wêng Shu-p'ei reports another mould of the "six *huo*" denomination to have been discovered in Chiao-chou in the eastern part of the Shantung peninsula.¹⁴ An I coin of "one *huo*" denomination

⁷ Sun I-jang, *ibid.*

⁸ See PLATE V, 2.

⁹ Though Sun I-jang presents the arguments for the reading of *pei* as 𧇛 in a most elaborate and convincing manner, he was not the first to suggest it. Ch'u Shang-ling records (at the beginning of the nineteenth century) that a scholar named Ho Mêng-hua suggested that the character be read as *i-pei* 益貝 (*Chi-chin shuo-chien-lu*, I, 2a). He thus found the basic component of the character to be *i*. Later, Liu Hsin-yüan deciphered the character as 𧇛 (*Ch'i-hu-shih chi-chin wên shu*, XX, 4a), but he failed to see that 𧇛 is a later form of 𧇛.

¹⁰ *Ku ch'ien ta-tz'ü-tien*, XII, 476b–477a. I as a county during the Han time is recorded in *Han shu*, XXVIII, Part 1, under Pei-hai Chün.

¹¹ Liu Hsin-yüan, *op. cit.*, XX 4a.

¹² *Ibid.*

¹³ *Hsü ch'üan shuo*, 6b.

¹⁴ *Ku ch'ien ta-tz'ü-tien*, XII, 472b–473a.

is reported by Li Tso-hsien to have been found in the same place with the moulds.¹⁵

Thus, study of the legends, the provenance, and moulds of the coins lead us to the conclusion that the round coins inscribed with the mint name of I were not coins of Chou but coins of a town in Ch'i by the name of I.

The coins of I are of four denominations — one, two, four, and six. The smallest denomination is inscribed "*I Huo*" or "(One) *huo* of I" (PLATE LI, 6). The two-*huo* denomination (PLATE LI, 8) is inscribed with "*I Erh Huo*" or "Two *huo* of I." The four-*huo* denomination (PLATE LI, 7) is inscribed with "*I Ssü Huo*" or "Four *huo* of I." And the six-*huo* denomination (PLATE LI, 9) is inscribed with "*I Liu Huo*" or "Six *huo* of I." Coins of one-, four- and six-*huo* denominations are common. The two-*huo* denomination is known to us only from a rare specimen in the collection of The American Numismatic Society. With this specimen we are able to complete the series of I coins and their denominational system which may be the same as the system of other mints in the knife area.

B. "Ming" round coins (PLATES LI, 10—11; LII, 1—2). These coins differ from the coins of I—no specimen of the coins preserved today has rims—, but they both have square central holes and plain reverses.

Specimens of these coins are generally seen with the legend "*Ming Huo*" 𠄎 𠄎 (PLATE LI, 10). The character "*Ming*" (on the right side in the legend) is the same one found on thousands of Ming knives, and it must have the same meaning. The character "*huo*" (on the left side) has been variously read as *yüeh* for "moon,"¹⁶ *i* for "town or city,"¹⁷ *hsi* for "evening,"¹⁸ and *tao* for "knife."¹⁹

¹⁵ *Hsü ch'üan shuo*, 6b.

¹⁶ Hung Tsun, *Ch'üan chih*, XII, 5a.

¹⁷ Ch'in Pao-tsan records this reading as advanced by "some one" (*I-hsia lu*, III, Part 2, 12a).

¹⁸ Ma Ang (*Huo pu wên-tzŭ k'ao*, III, 47a) and Liu Hsin-yüan (*Ch'i-hu-shih chi-chin wên shu*, XX, 4b) offer this reading.

¹⁹ Suggested by Li Tso-hsien (*Ku ch'üan hui*, IV, Part 1, 2a) and followed by many numismatists.

However, a close examination will reveal that the character written 𠂔 with the short stroke straight and not connected with the longer and curved stroke, as it appears on some specimens, is the left part of the original complete character *huo* 𠂔, which, as a monetary designation, appears as the last character on all legends of the Early Knives. It is the abbreviated form of the latter. In the same short form *huo* appears in the legends on some of the Small Knives and in the legend of the "One *Huo*" coins (see below). This abbreviated character appearing in the legends of the Small Knives and the "One *Huo*" coins has never been misread, it is rather strange that it should have been misread on the "Ming" coins.

On some "Ming" coins the character *huo* is written 𠂔, for example, (PLATE LII, 1) with the shorter stroke curved and connected with the longer one. This obviously was caused by the symmetrical and artistic instinct of the designer or mouldmaker, who, by curving the shorter stroke to match the curved form of the upper part of the character "Ming" achieved an harmonious pattern in the whole legend. This style over a lengthy span of time had acquired something of the nature of a conventional design.

Like the coins of I, "Ming" coins appear to have consisted of various denominations and consequently various sizes as indicated by the existence of the coin specimen inscribed with the legend, *Ming Ssü* or "Ming four" (PLATE LII, 2). Here again the monetary unit may be the *huo*; i. e., "Ming four" means "Ming, four *huo*." The measurements of the picture of the specimen, which is made from a rubbing, is 29 mm. in diameter, almost the same as that of the four-*huo* coin of I which is 30 mm. in diameter. This suggests the possibility that the "Ming" coins might also have two-*huo* and six-*huo* denominations.

In 1928 in the excavation of the Mu-yang-ch'êng site on the Liao-tung Peninsula in southern Manchuria, three "Ming" round coins were discovered, together with fourteen broken pieces of "Ming" knives at the same spot and on the same level.²⁰ This is indisputable

²⁰ *Mu-yang-ch'êng* (*Archaeologia Orientalis*, series A, Vol. II), 1931, 18—19, Pl. XIX.

evidence that "Ming" round coins were in circulation where "Ming" knives had been and still were during the last years of the Chou period.

C. "One *Huo*" round coins (PLATE LII, 3). This group has the square central hole characteristic of the coins of the knife area, rims, and plain reverse. They bear no mint name: their legend contains only the denomination, *I Huo* or "one *huo*."²¹

In the remains of Kao-li-chai on the Liaotung Peninsula, twenty-three "One *Huo*" specimens were unearthed. Some of these were found together with "Ming" knives in trench D.²² Two specimens were discovered in the remains of Mu-yang-ch'êng also on the Liaotung Peninsula. They were found on the same spot with "Ming" knives and "Ming" round coins.²³ Evidently all were currencies which had circulated in the same area.

Since the coins are inscribed "One *Huo*," there must have been coins of other denominations; otherwise, the specification of "one *huo*" would be meaningless. What the complete denominational system of this group of coins actually was is a matter that may be gauged from that of *I* coins, and cannot be said with absolute certainty.

From the above descriptions of individual groups we make the following general observations: (1) all of the round coins hitherto described have the same monetary unit '*huo*', which had been an exclusive monetary designation of the knife coinage; (2) all have a square central hole; (3) both the location of the mint and the provenance of the moulds and the coins of *I* are in the old territory of Ch'i, the original area of knife coinage; (4) both the "Ming" round coins and the "One *Huo*" round coins have been discovered together with "Ming" knives in the area where the knife had become the dominant currency during the last years of the Chou period. We can conclude therefore that these coins belong to one general category, which is to be regarded as the round coinage of the knife area.

²¹ Japanese archaeologists still read the contracted character *huo* as *tao* (knife). See *P'i-tz'ü-wo*, 63 and *Mu-yang-ch'êng*, 18—19.

²² *P'i-tz'ü-wo*, 63, and Table II, Stratigraphical Table of the Relics Found at Kao-li-chai.

²³ *Mu-yang-ch'êng*, 18—19.

2. ROUND COINS OF THE SPADE AREA

Their variations in design and differences in monetary units permit us to divide the round coins of the spade area into several groups. Except for our last group (E), which are coins of the state of Ch'in, the order of arrangement of the various groups also represents the sequence of their appearance so far as we can judge.

A. Coins with a round central hole and without a rim.

These coins constitute the bulk of the round coinage from the spade area during the Chou period. They were minted by eleven cities and feudatories as listed in the following table:

<i>Mint</i>	<i>Modern Location</i>	<i>Monetary Unit</i>	<i>Plate Reference</i>
An-hsiang (?) 安鄉		Not given	LII, 4
Ch'ang-yüan 長垣	S. Hopeh	<i>Chin</i>	LII, 5
Chi-yin 濟陰	S. W. Shantung	Not given	LII, 7; LIII, 1
Chin (-yang) 晉 (陽)	C. Shansi	„	LIII, 2
Kung 共	N. Honan	„	LIII, 3-5
Lin 蘭	W. C. Shansi	„	LIII, 6. LIV, 1
Tung-Chou 東周	N. Honan	„	LIV, 3-4
Yin-p'ing (?) 陰平		„	
Yü 虞	S. W. Shansi	<i>Chin</i>	LV, 1
Yüan 垣	S. W. Shansi	Not given	LV, 2

The decipherment of "An-hsiang" is still uncertain, as is also "Yin-p'ing." Fang Jo who possessed the specimen with the latter legend reads it as "Wu-P'ing."²⁴ The specimen with the legend "Chin (-yang)" was also in the possession of Fang Jo, who states that there are traces of another character below "Chin" covered with heavy rust.²⁵ The reason we suggest "yang" as the second character is that Chin-yang, one of the most important mints for which spades and knives have been preserved, is the only known mint name beginning with "chin."

The coins in this group are of two sizes. Since the large coins of Ch'ang-yüan and Yü are inscribed "one *chin*" or "*chin*" and are obviously of one *chin* denomination, the large coins of similar size from other mints in the same area must also be based on the same monetary unit and be of the same denomination, even though they are not so inscribed. A small coin of Chi-yin (PLATE LIII, 1) in the Museum of The American Numismatic Society weighs 4.65 grams, approximately half of the larger coin of the same mint which weighs 10.20 grams. Originally it may have weighed just half of the latter. Therefore, it and the smaller sized coins of other mints must be a half *chin* in denomination.

B. Coins with round central hole but with rims.

Of this type, coins are preserved for the following mints:

<i>Mint</i>	<i>Modern Location</i>	<i>Plate Reference</i>
Chi-yin 濟陰	Pro. S. W. Shantung	LII, 8
Hsi-Chou 西周	N. Honan	
Li-shih 離石	W. C. Shansi	
Lin 蘭	W. C. Shansi	LIV, 1

²⁴ Fang Jo, *Yüeh-yü ku-huo tsu-yung*. See his explanation under the illustration.

²⁵ Fang Jo, *op. cit.* See note under illustration.

Except for Hsi-Chou, the other three mints have been listed in the table showing the distribution of mints of the spades; they were mints of the spade area. Hsi-Chou which was located in northern Honan just west of the royal capital of Chou was also in the spade area. Lin round coins without rims are found in our Group A; those with rims in the present group (B) we believe to be the later of the two issues.

C. Coins with square central hole but without rims.

Of this type of coin only one of Chou has been reported.³⁶ The legend on this piece reads *Chou Huo* 周化 or "Huo of Chou." At the time the coin was cast, the royal domain of Chou had been reduced to a small area in the central part of present northern Honan, where its capital, Lo-i, was located. Lo-i had been in the center of the spade area. The square central hole of the coin was most likely a later adoption from the design of the round coinage of the knife area. The influence of the knife area coinage upon this type of coins is also evidenced by its use of the monetary unit *huo*.

D. Coins with square central hole and rims.

Of this group only the coins of Chou (PLATE LIV, 4) have been preserved. The design of these coins shows further influence of the coin design of the knife area in the east upon the coins of the spade area in the west, since both the square central hole and the rims are marked characteristics of the round coins of the knife area and are not found on the early issues of the round coins of the spade area.

E. Round coins of the state of Ch'in with their weights: as listed on page 196.

This group of coins, showing a strong Ch'in influence, is a special category in the round coinage of the spade area. In the study of the Late Spades, we found a group which was currency of the state of Ch'in. Their monetary unit was the *liang*, a weight unit composed

³⁶ This rare specimen is reported by Ch'in Pao-tsan (*I-hsia lu*, III, *ying* 1a—2b, 15 ab.). He states that the coin was deposited in a bronze *chüeh* vessel together with some "Ant Nose Money," which was dug up outside of the southern wall of the city of Hsü-chou (Suchow).

<i>Legend</i>	<i>Design</i>	<i>Plate Reference</i>
Chung i liang shih- ssü chu 重一兩十四珠 (Weight, one <i>liang</i> fourteen <i>chu</i>)	Round central hole with rim	LV, 3
Chung i liang shih-san chu 重一兩十三珠 (Weight, one <i>liang</i> thirteen <i>chu</i>)	Round central hole with rims	LV. 4
Chung i liang shih-erh chu 重一兩十二珠 (Weight, one <i>liang</i> twelve <i>chu</i>)	Round central hole with rims	LV, 6
Chung shih-erh chu 重十二珠 (Weight, twelve <i>chu</i>)	Square central hole without rim	

of 24 *chu*. The appearance of that monetary unit on this group of round coins implies that these coins were developed from Ch'in spades. Shensi, the home territory of Ch'in, is their reported provenance,²⁷ and this adds much weight to the assumption. The specimen inscribed with the legend "Weight, twelve *chu*," which equals a half *liang*, must have been the immediate forerunner of the Pan-liang (half *liang*) coin of imperial Ch'in, which was the first Ch'in coinage issued after ancient China was conquered and unified in 221 B. C. Like this coin, the imperial Pan-liang coin of Ch'in also has a square central hole.

Unlike other coins of the spade area they do not bear mint names. This is exceedingly interesting and significant, and is most likely a reflection of the political structure of Ch'in at the time these coins were cast. The history of the state of Ch'in shows that after the latter part of the fourth century B. C. Ch'in was a centralized state.

²⁷ *Ch'üan-pi*, No. 2, 44.

In 336 B. C. coinage was made a state prerogative, and thereupon the special form of spade with three holes was cast. At the beginning of this innovation the old tradition persisted, and the unified spade coinage of Ch'in still bore the names of local mints, which were very likely the mints which cast them under a central supervision. With the appearance of the round coinage, the king's monopoly on coinage seems to have been tightened further, with minting probably concentrated at the capital. The centralization of minting at the capital or under the sole power of the king meant the abolition of local minting privileges. This is probably the reason for the absence of local mint names in the legend of the coins. As a matter of fact, the centralization of minting would make the very specification of mint unnecessary. The absence of mint name on the universal Pan-liang coin of imperial Ch'in serves as a good example.

Besides the various types of the round coins described and discussed above, there is one more type (PLATE LV, 5, 7) which should be mentioned. These coins have a round central hole, some with and some without rims. All of them bear the same legend, "*Pan yüan*" 半圓 or "Half, round." The second character of the legend, *yüan*, though slightly varied, is structurally identical with the *yüan* character as it appears in the inscriptions on the Chou bronzes. Philologically speaking, the character is the same as 圓, is pronounced the same and means "round" or "something round."²⁸ In the legend the character obviously refers to the shape of the currency as distinguished from the previous currency, the spade. The designation of the round coins as *yüan* partially substantiates Pan Ku's statement that the Chou had *yüan-fa*,²⁹ 圓法, "round system" or "round coinage." It serves also to repudiate the much repeated statement that the entire Chou coinage was the *yüan-fa*. Since a specimen has

²⁸ 圓 is equivalent to 圓 meaning "round." See Wu Tsêng-ch'i's 吳曾祺 explanation quoted in *Shuo-wên-chieh-tzû ku-lin* (compiled by Ting Fu-pao), 2719 a b.

²⁹ *Han shu*, XXIV, Part 2, 1a. Pan Ku's statement that the *yüan-fa* was created by T'ai-kung, i. e., Lü Wang, is untrue, because Lü Wang lived at the beginning of the Chou period whereas round coinage did not appear before the third century, about eight hundred years later.

been discovered in Shensi, the territory of the state of Ch'in, Chêng Chia-hsiang suggests that this type of coin was of Ch'in origin.³⁰ This explanation is plausible, and the coins might have been experimental issues before the Pan-liang.

3. DATE OF THE ROUND COINAGE

So far as we know, no numismatist has attempted to date the origin of this special coinage. Practically all numismatists, though, regard the various round coins described above as currency of the last century or centuries of the Chou period. Chêng Chia-hsiang and Ting Fu-pao take exception to this, however, in regard to the round coins of I³¹ and "Ming" coins which they hold are of late Ch'in or Han origin.

Chêng Chia-hsiang believes that these coins were modelled after the imperial Pan-liang coin of Ch'in and were cast at the end of that dynasty.³² His argument for their late origin is that all have a square central hole which, he says, was a creation of imperial Ch'in (not Ch'in State). Therefore, they must be later than the Pan-liang, the first coinage of the imperial dynasty. He further argues that the size of the "Ming" and I coins is small and that their shape resembles the Ssü-chu coin of Emperor Wên of Han (179—157 B. C.).³³

Ting Fu-pao speaks of the I coins only, and his argument is not based on the square central hole or the size, but on the rims around the hole and the outer circumference. It is his opinion that the rims were a post-Chou design. For this reason, he alleges that the coins of I which have such rims are as late as the reign of Emperor Wu of Han.³⁴ The reason, as we see it from his writings, is that the name of the city I first appears in an historical record concerning Emperor Wu's reign.³⁵

³⁰ *Ch'üan-pi*, No. 2, 44.

³¹ Chêng Chia-hsiang still follows the old and erroneous reading of the character "i" as "pao" (*Ku ch'ien ta-tz'ü-tien*, X, 207b, and *Ch'üan-pi*, No. 21, 32—38).

³² *Ku ch'ien ta-tz'ü-tien*, X, 207b—208a.

³³ *Op. cit.*, X, 207b—208a.

³⁴ *Op. cit.*, 477a.

³⁵ In *Han shu*, XV, Part 1, 14a. It is recorded that in 128 B. C. Emperor Wu made a member of the imperial house the Marquis of I-tu. I-tu is identified with I.

Those who have read our descriptions of the round coins of the Chou period will detect the faults in their reasoning. Let us take up their arguments one by one and see if they are well founded.

First, the square central hole. Chêng Chia-hsiang's explanation that the square central hole was a creation of imperial Ch'in contradicts the facts. Both the Chou coin and the "Twelve *chu*" coin of the Ch'in state had square central holes (see Groups C and E), and the states of Chou and Ch'in existed before the establishment of the imperial dynasty of Ch'in.

Second, the size. On this point Chêng Chia-hsiang again goes against the facts. The size of the coins of the Chou period, whether with a round central hole or with a square central hole, varies with the denomination. The average diameter of the largest denomination (six *huo*) of the coins of I (with a square central hole) in the collection of The American Numismatic Society is 35 mm. It is almost as large as the Chi-yin coin (with round central hole) of the one *chin* denomination (39 mm.) and larger than the Chi-yin coin of the half *chin* denomination (31 mm.). Although slightly smaller in size, the I coin of the six *huo* denomination weighs as much as the Chi-yin coin of one *chin* (about 10 grams). The one *chin* coin of Yü with a round central hole has a larger diameter (41 mm.), but it is thinner and weighs less (8.22 grams). In neither size nor weight do we find noticeable difference between the coins with a round central hole (which Chêng Chia-hsiang regards as a distinction of coins of the Chou period) and the coins with a square central hole (which he regards as an imperial Ch'in creation).

Third, the rims. The argument that rims are of late origin is even less tenable. As far back as the fifth century some Old Spades already had a rim. This was pointed out a century and half ago by Ts'ai Yün in his repudiation of the late origin of the rim.³⁶ While the round coins of I have rims on their obverses only, these spades have rims on both sides. If the rim theory were at all tenable, the round coins of

³⁶ Ts'ai Yün, *P'i-t'an*, IV, 3b.

I must have been older than the Old Spades. Furthermore, not all the I coins which Ting Fu-pao regards as of Han origin because of their rims actually have rims. The American Numismatic Society has ten I coins of the one *huo* denomination, and five of them have no rims. Rims are not exclusive features of I coins; they also appear on the round coins of Western Chou, Eastern Chou, Lin, Li-shih and some Ch'in (feudatory Ch'in) coins with weight specifications. Ting Fu-pao does not seem to have regarded these coins as of Han origin, and, as a matter of fact, no one can deny that they were coins of the Chou period.

The assertion that the I coins resemble the shape of a later coin is secondary, and as an argument is too weak to be dealt with. In short, the contention of late origin for the "Ming" and I coins, as advanced by Chêng and Ting, is largely due to their preconceived idea that coins with a square central hole or with rims must be later than the Pan-liang coin of imperial Ch'in. This preconception seems to have prevented their paying attention to facts to the contrary. The truth is that these coins, like the other coins described above, were all coins of the Chou period.

Pan Ku, a Han historian, states that the round coinage (*yüan-fa*) was created by T'ai-kung³⁷ or Lü Wang as he is called in this paper. This is absolutely impossible. T'ai-kung lived at the beginning of the Chou dynasty. According to the old text of the *Bamboo Annals*, he died in the sixth year of King K'ang, which is 1073 B. C. in the traditional chronology. The round coinage, judging from all indications available, was a currency of much later origin. The early date of T'ai-kung and the late origin of the round coin disproves beyond any doubt Pan Ku's statement.

In his work, *Old Tombs of Lo-yang*, W. C. White mentions the recovery of a Tung-Chou (Eastern Chou) coin in one of the tombs at Chin-tsun, Honan,³⁸ which is dated in the sixth century according

³⁷ *Han shu*, XXIV, Part 2, 1a.

³⁸ White, *Tombs of Old Lo-yang*, p. 48, Pl. XLV, 118.

to him³⁹ and in the fourth century according to Kuo Mo-jo.⁴⁰ Upon further inquiry we found that Prof. White relied on a dealer's word for the coin's provenance.⁴¹ Dealers' information on provenance is not always reliable, however.

As the literary record and the archaeological report are of no avail, we must once again search for indications regarding their origin from the coins themselves.

In the previous studies on the spade and the knife coinages we have reached the conclusion that the late types of the two coinages lasted well into the third century B. C. As the round coins were a coinage which succeeded the knife and the spade, their date could not have been earlier than this century. In view of the fact that the round coins of the Chou period preserved today are exceedingly few⁴² — even fewer than the ancient Hollow-handle Spades — the number cast at that time must have been very small, or the period of their circulation must have been short. Although we cannot say exactly when the round coinage or coinages of Chou began, we are fairly sure of the date it ended. It is a well-known historical fact, related by Ssü-ma Ch'ien, that the round coinages of the Chou period were abolished by the first emperor of Ch'in upon his unification of the monetary system in 221 B. C.⁴³ Since the duration of the round coinages of

³⁹ *Op. cit.*, 40. Date based on an inscription on a Piao-ch'iang bell which was recovered from one of the tombs. Actually the date has bearing only on that particular tomb in which it was deposited.

⁴⁰ *Liang-Chou chin-wén-tz'ü ta-hsi k'ao-shih*, III, 234a ff. Kuo bases his date on the same inscription.

⁴¹ In a letter to the writer Professor White states, "I have no reason to doubt that it (the Eastern Chou coin-Wang) came from Old Loyang, for it reached me in Kaifeng with a quantity of material from the Chin-tsun tombs, and I was informed by Mr. Lin Shih-an, the well known dealer in Kaifeng, that he heard there were others of these coins which his buyers did not obtain. This was the only coin that I could accept as probably from Old Loyang."

⁴² This is shown by both the limited number of mints of which coins are preserved and by the limited number of coins preserved for each mint. The majority of these mints have no more than one or two specimens.

⁴³ The official abolition of a coinage may not correspond to the actual and complete withdrawal of coin from circulation, especially in the border regions, for obvious

Chou might have been short, we may tentatively date their beginning as around 250 B. C.

4. SOME HISTORICAL EXPLANATION

In the above description an interesting historical phenomenon has come to light. It is the continuation of the influence of the coinage of the knife area in the east upon that of the spade area in the west. The expansion of the knife coinage of the ancient Shantung Peninsula, predominantly the state of Ch'i during the Chan-kuo period, and its penetration into the neighboring states of Chao and Yen, has been discussed in Chapter V. As we see them, the reasons the towns and cities of Chao and Yen adopted the eastern knife coinage were largely economic. During the period of the round coinage, the eastern influence seems to have persisted. The evidences are the gradual adoption of the square central hole, and the monetary unit *huo* in the western round coinage or coinages. As has been pointed out above, the square central hole was a characteristic feature of the round coin in the old knife area, and *huo* was an exclusive monetary designation of the knife and the special monetary unit of the round coin in the area where the knife had been the currency or the dominant currency. In the beginning the characteristics of the round coins in the spade area adjacent to the knife area or in the area into which knife coinage had penetrated⁴⁴ were the round central hole and the special monetary unit *chin*. Coins with these characteristics were cast

reasons. In the excavation of the site of Kao-li-chai "One *Huo*" round coins were discovered together with "Ming" knives and Late Spades of Hsiang-p'ing in Trench D (*P'i-tz'ŭ-wo*, Table II). In the excavation of the site of Mu-yang-ch'êng, "Ming *Huo*" and "One *Huo*" round coins were found together with the earlier "Ming" Knives and the late coinages of imperial Ch'in (Pan-liang coins), Han (Wu-chu coins) and Hsin (Ta-ch'üan-wu-shih coin) on the same level at the same location (*Mu-yang-ch'êng*, 18—20). Both sites are on the Liaotung Peninsula in southern Manchuria which was a border region during the latter part of Chou and the dynasties of Ch'in, Han and Hsin.

⁴⁴ For reasons of simplification the coins of the state of Ch'in are excluded from the discussion.

by the mints of Chou and Ch'in which were in the area where the knife never seems to have been cast; yet among the coins of this group there are preserved some of Chou and Ch'in which have a square central hole (see Groups D and E). Taking all these indications into consideration, we must say that the square central hole of the round coins of the old spade area was an imitation of a feature on the eastern coinage of the old knife area.

The adoption of eastern monetary features by the west is further demonstrated by the appearance of the monetary unit *huo* in the legend of the Chou round coin (see Group C on p. 195). The legend of the coin reads "*Chou Huo*" or "*Huo of Chou*", the same expression as the legends of the "Ming" coins and the coins of I of the knife area.⁴⁵

The co-existence of two different coinages — in the east the knife and in the west the spade⁴⁶ — and the constant influence exerted by the eastern coinage upon that of the west help to explain many of the events which took place in China's early history. Students of Chinese history are familiar with the division of China into the south and the north, and with the economic and political parts played by the two great regions, but this phenomenon did not exist in ancient China. With the Ch'u area in the south less developed culturally and economically, ancient China was constituted of two areas, the east and the west. The center of the west was around the middle of the Yellow River, and the center of the east was on the Shantung Peninsula. The early political history of China was predominantly a struggle between the peoples of the east and west. The Shang people, who originated in the east, conquered and replaced the Hsia people in the west in the first part of the second millennium B. C. A few centuries later the Chou people, who came from the west, conquered and

⁴⁵ Besides the "*Chou Huo*" coin, Ch'in Pao-tsan reports also the existence of a round coin with the legend of "*Chi Huo*" or "*Huo of Chi*" (*I-hsia lu*, III, Part 2, *ying* 14a). He reads the character *huo* as *i*, the second character of the twelve "heavenly stems."

⁴⁶ For the reasons mentioned in the text below we exclude the state of Ch'u in the south and its *yüan-chin* coinage.

replaced the Shang at the end of the twelfth or the eleventh century. The division between the east and west in ancient China and the struggles between the peoples of these two areas have been admirably expounded by Prof. Fu Ssŭ-nien in his essay "I Hsia tung hsi shuo."⁴⁷ The study of ancient Chinese coinages further confirms his analysis and reveals, in addition, that in economic life the east seems to have always maintained the leading role.

The construction of Lo-i in present central northern Honan as the "eastern capital" of Chou has been stated and believed to be a pure political and military measure to control the vanquished Shang. The action, however, may have also been motivated by the desire to approximate the wealth of the east. The economic intentions are clearly manifested in the actions of Chao and Liang in moving their capitals to Han-tan and Ta-liang, both on the "Cross-road" to the approaches to eastern resources. Both the Ch'in and Han dynasties relied on the east for much of their supplies, and the city of Lin-tzŭ in the east about 127 B. C. seems to have been the only city which had a "prosperous and rich" population of 100,000 households, yielded a market tax of 1,000 (Han catties of) gold, and was "greater than Ch'ang-an,"⁴⁸ the imperial capital of Han.

All indications point to the fact that the east of ancient China had greater economic resources than the west, and for that reason exerted much influence over the latter. With this fact in mind, we can easily understand why the coinage, of the east was imitated in the west and not vice versa.

Was the eastern or the knife area the first to adopt the round shape in coinage? This seems to be a logical hypothesis in view of what has been said above, but that part of the spade area which had adopted the knife as one of its currencies under the strong influence of the east used the *chin* of the spade, not the *huo* of the knife for the monetary unit of its round coins. Therefore the west appears to be the first area to introduce round coinage. However, these are pure conjec-

⁴⁷ *Ch'ing-chu Ts'ai Yŭan-p'ei hsien-shêng liu-shih-wu-sui lun-wên chi*, 1935, 1093 — 1134.

⁴⁸ *Han shu*, XXXVIII, 7b.

tures. Any answer of this question, as well as many other questions regarding the coinages of Chinese antiquity, will have to depend upon future archaeological investigations.

Several general assumptions have been made regarding the origin of the shape. One suggestion has it that the shape was derived from the ring at the end of the handle of the knife coin, while another contends that it was an imitation of the *pi* or jade disc, which was a religious object symbolizing Heaven. Whereas we do not think that it is profitable to dwell on pure conjectures, we deem it necessary to point out the fact that at the time when the round coin was about to appear the ring of the handle of the knife coins had degenerated to such an extent that it had become very small and in some cases had actually disappeared. In our opinion, there is no reason to believe that the round coin was modelled after the ring in the handle of the knife coins.

VIII. MONETARY DESIGNATIONS AND MONETARY UNITS

Inasmuch as monetary units and designations are essential features of the coinages of ancient China, they have already been mentioned in connection with the discussion of the various coinages. It remains to investigate their origin and development as monetary units, and the changes in their weights and denominational systems in the course of many centuries. As the *yüan*, the monetary designation and unit of the money of the state of Ch'u, has been discussed fully in the section on the *yüan-chin*, we will here treat only the *lieh*, the *chin*, the *huo* and the *liang*.

1. THE LIEH

The origin of the *lieh* 𠄎 is uncertain.¹ In the legends on spade coins and in the inscriptions of the Chou bronzes the character is written 𠄎. It appears to be an ideograph signifying a hand holding something which another hand approaches to take. The hand may be holding a single object, as Kuo Mo-jo understands it,² or the character may be the symbol for a handful of objects, as we are inclined to think. The ideograph implies the transfer of the objects from one hand to another, or from one person to another. In other

¹ The character *lieh* 𠄎, 𠄎 (𠄎 in modern script) has been mistakenly identified with the character *yüan* 𠄎, 𠄎 (𠄎 in modern script) by many scholars including the author. The mistake originated with Hsü Shên, who in his famous dictionary (presented to the throne in A. D. 100) first suggests the identification (*Tuan-shih Shuo-wên-chieh-tz'ü chu*, XIV, 4a. The signific *chin* for "metal" of both the characters *yüan* and *lieh* as it appears in the dictionary is a later addition and does not change the meanings of the two characters). Tai Chên (1723—1777) is the first who pointed out the mistake and Kuo Mo-jo confirms his opinion by further epigraphical evidence (*Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, 13a). The difference between the characters *lieh* and *yüan* is very clear as they appear in the legends of the Special Old Spades of Liang and those of the *yüan-chin* of Ch'u.

² *Op. cit.*, 11b.

words, it seems to denote a transaction, such as an exchange of commodities. The handful may be of grain, for grain, being the essential food of the ancient Chinese, is likely to have been the first commodity used in a specific quantity to represent a certain value in measuring the values of other commodities. Traditions strongly maintain that the ancient Chinese used the *shu* (millet), seeds in certain numbers to define the smallest units in their measures of weight, length and capacity. It is possible that at a later date, when exchange of commodities increased both in frequency and in kind, the handful of grain no longer constituted a convenient medium of exchange. As the quantity necessary to express a certain value for any object is best determined by weight, the original value-unit may have developed into a weight-unit. But as the value of different objects varies with their availability and the amount of labor spent in their production, the *lieh*, as a weight-unit derived from a value-unit, must vary too. As a result there must have been *lieh* of different weights, as was still true during the Han dynasty.

It is needless to say that this interpretation of the origin of the *lieh* is purely conjectural. Whatever its origin, the *lieh* as a weight unit must have had a long history. To say the least, as evidence shows, it must have been in existence during the Shang dynasty. In the inscription of the Shih-lu Tripod, Shih-lu was fined three hundred "old" *lieh* of an object the name of which cannot be deciphered.³ Kuo Mo-jo dates this inscription to King Ch'êng's reign.⁴ Since Ch'êng became king in 1115 B. C., only seven years after Shang was conquered by his father, the actual founder of the Chou dynasty, the "old" *lieh*, as Kuo Mo-jo has rightly suggested, must have been the *lieh* of the Shang period.⁵

In bronze inscriptions of the early part of the Chou period *lieh* is found to be a weight unit to measure objects of a pecuniary nature such as cowrie shells and *chin* 金. The character *chin* which in ancient times generally meant "metal" may here refer to copper, as

³ Kuo Mo-jo, *op. cit.*, 26a.

⁴ *Ibid.*

⁵ *Op. cit.*, 26b.

Kuo Mo-jo understands it,⁶ and may refer to a money in metal form. As a designation of metallic money, *chin* is found in the literature of the Chou period and in the legends on the Special Old Spades of Liang (see p. 138). If it here means metallic money, then the *lieh* in terms of which money is measured must have been a monetary unit; in other words, the weight unit *lieh* must have been adopted as a weight standard in minting. This, however, is more hypothetical than certain.

The *lieh* as a weight unit for measuring metallic money occurs with certainty in Chou bronze inscriptions dated from the time of King Mu (1001 — 947 B. C.) down, where it is used in conjunction with the character 𠄎 (, 𠄎, 𠄎). All in all, seven inscriptions have been preserved in which the two characters occur together, the *lieh* evidently serving as a measure for a certain amount of the other article. In one of them there is recorded a proposal to purchase five "slaves" with one hundred *lieh* of the article.⁶ The other six are all concerned with appointment to high ranking offices. In them the appointee is always commanded by the king "to take (or to receive)" so many *lieh* of the article in remuneration.⁷ The numbers range from five to thirty. The name of the object is very difficult to decipher. Although no less than six different suggestions have been made,⁸ none of them can be regarded as satisfactory. Judging from the contexts of these inscriptions, the object can be nothing but a kind of money. This is also the interpretation of Kuo Mo-jo and Wu K'ai-shêng.⁹ (It is most unfortunate that we do not know the reading of the name of the money, for if we did, we certainly would be better informed of the monetary system of the time.) Since *lieh* is used to measure

⁶ *Op. cit.*, 96b — 97b.

⁷ For those inscriptions see *op. cit.*, 57a, 118a, 119b, 133a, 134b — 135b, and 150b.

⁸ Five suggestions are mentioned in Chang Chih-kang's 張之綱 *Mao-kung ting chiao-shih*. They are *fu* 賦 (to give or to collect), *pei* 貝 (cowrie), *i* 遺 (to give), *chai* 債 (credit, loan), and *kuei* or *k'ui* 歸 (to give a pecuniary gift). Wu K'ai-shêng (*Chi-chin wen lu*, 1933, I, 4a) and Kuo Mo-jo (*Shih p'i-p'an shu*, 1945, 49) read it as *huo* 貨 (money).

⁹ See above note.

the money, it must be either a monetary unit or a weight unit applied to this coinage.

As a monetary unit for coinage *lieh* is also found in the legends of the Special Old Spades of Liang which have been described (pp. 130ff). As pointed out above, when the type of spade reckoned in terms of *chin* was in circulation, there must have been another coinage whose weight was based on the *lieh*, for we have such expressions as "equal to one *lieh*" and "equal to twelve *lieh*." We do not know exactly to what kind of money the *lieh* of these expressions referred. Since at the time of the Old Spades of Liang there were three types of coin in circulation — the knife, the spade and the *yüan-chin* — *lieh* as a monetary unit must have applied to one of these. We know that *huo* and *yüan* applied to the knife and the *yüan-chin* respectively. Possibly the *lieh* was used as a unit for the spade alongside the *chin* or in certain areas instead of the *chin*. This hypothesis is plausible in view of the fact that the use of *chin* did not come with the beginning of spade coinage, but many centuries later, when the coinage had developed to its latest stage of hollow handles. The original unit for the spade may well have been the *lieh* preceding the adoption of the *chin*. It is assumed that adoption of *chin* was slow and gradual, and that *chin* came to be adopted in some areas, while other areas continued to reckon their spades in *lieh*. Such a circumstance would explain why the state of Liang specified on its own spades (based on the *chin*) their exchange rate with spades of other mints which were based on the *lieh*. Again, it is not impossible that the monetary appellation recorded on the bronzes discussed above was the official name for the spade whose value was measured by the *lieh*. Then, for some reason or other, this official name came into disuse and was replaced by the popular terms *ch'ien* and *po* (*pu*).

There are no contemporary records which supply information on the exact weight of the *lieh*. What literary evidence we have is all of Han date, which may or may not represent the situation of the Chou period. According to our information, three different *lieh* are known: one equal to $11 \frac{13}{25}$ *chu* (which is about a half *liang*); the second

equal to $6 \frac{2}{3}$ *liang*; and the third equal to 6 *liang*.¹⁰ The second and third are so close that they may be considered two versions of the same standard measure. So we may consider that there were two kinds of *lieh* of entirely different weight. The discrepancy between them is so great that Kuo Mo-jo was led to believe that the heavier *lieh* represented the "old" *lieh* of Shang.¹¹ On another occasion, he expressed an opinion that it constituted the weight measure for commodities, while the lighter *lieh* was the weight unit for money.¹²

How heavy was the *lieh* as a monetary unit? On this question the Special Old Spades of Liang may provide us some information, for each of these spades bears an equation between its denomination in terms of the *chin* and its denomination in terms of the *lieh*. Both the spade with legend a) and the spade with legend c) equated to one *lieh*, and the spade with legend d) is specified as equal to twelve *lieh*. The weights of Type a), the "standard" spades of Liang with 1 *chin* equal to 1 *lieh*, in the Museum of the American Numismatic Society are as follows: 10.85, 11.52, 12.55, 12.05, 16.00, 13.15, 13.40, 14.91, 13.72 grams.

Here we see that so far as Type a) of the Special Old Spades of Liang are concerned, the weight of the *lieh*, as equal to the *chin*, is 16 grams in the heaviest specimen. This weight cannot be regarded as the original weight of the *lieh* as the weight of no coin which has been buried underground for two thousand years and more, and subjected to oxidization, would be precisely the original.

The official ratio between the *chin* and the *lieh* may have been artificial because of reasons unknown to us. But even if it were so and there were some difference between the weight of the *lieh* and the *chin*, the difference could not have been too large, for any compulsory equation of two monetary units of greatly different weight would defeat the very purpose for which the equation was made — that is, to facilitate the trade between the areas where these two different units were used.

¹⁰ *Liang Chou chin-wén-tz'ü ta-hsi k'ao-shih*, 12a—12b.

¹¹ *Op. cit.*, 26b.

¹² *Ch'ü Yüan yen-chiu*, 1946, 88.

Both Type c) and Type d) of the Special Old Spades of Liang which are specified "to be used as" are believed to have been "token" money. Compared to Type c) the reduction in weight of the *chin* and, for that matter the *lieh*, of Type d) is more striking. The weights of seven pieces of this type are as follows: 26.18 28.02, 17.40, 19.50, 25.10, 23.54 25.05 grams.

2. THE CHIN

The character *chin* 斤 (鉞 in modern script) which appears in the legends of spades of various types has often been interpreted by numismatists as representing two characters *chin*, *huo* 金化 (i. e., metal money) or *chin chin* 金斤 (i. e., one catty of metal). The separation of the character into two parts is wholly unwarranted, and the suggested readings are untenable.¹³ A recent suggestion to read it as *ch'ien* 錢 is equally ill-founded.¹⁴ The reading of the character as *chin* was first advanced by Liu Shih-lu,¹⁵ and is generally accepted today. But the interpretation of its meaning varies with different numismatists. The reason for varying interpretation is that the character does not occur in the literature of the Chou period except for the *Chuang-tzŭ*, where it is used to signify an implement having no relation to money.¹⁶ Hsü Shên (first century A. D.), the first scholar to comment on the character, renders its meaning as *chi-tuan* 劑斷 that is "To cut or sever evenly or regularly,"¹⁷ an

¹³ For criticisms of these unacceptable readings see Chêng Chia-hsiang, "Ku pu chin tzŭ chih yen-chiu" (A study of the character *chin* in the legends of the ancient spades), *Ch'üan-pi*, No. 22, 3.

¹⁴ The reading of *ch'ien* is suggested by Ch'ên T'ieh-ch'ing and quoted by Chang Chung-po in his article, "Tsai shuo *chin* pin ta Ch'ên chŭn T'ieh-ch'ing," *Ch'üan-pi*, No. 18, 6—7.

¹⁵ Lin Shih-lu, *Yü Hsia shu-chin shih-wên* (Coole, no. 385).

¹⁶ *Ssŭ-pu pei-yao* ed., IV, 17a.

¹⁷ *Tuan-shih shuo-wên-chieh-tzŭ chu*, XIV, Part 1, 8b. The translation of Hsü Shên's comment is according to the interpretation of Tuan Yü-ts'ai, the most authoritative commentator of Hsü Shên's work.

explanation which also fails to show any connection between the character and the spade money. Believing Hsü Shên's opinion too authoritative to cast aside, numismatists could only fabricate an interpretation for the character by emphasizing one of the ideas implied in his comments, or distort his words. Liu Shih-lu's interpretation of the *chin* as a monetary designation for the spade is based on the hypothesis that the coins were cast in pairs and had to be severed after they were taken out of the molds.¹⁸ This agrees with Hsü Shên's explanation of *chin* as "to sever." The character *chi*, in Hsü Shên's comment on *chi-tuan*, led Wang Lien-shêng to the conclusion that *chin* means "tally."¹⁹ Chêng Chia-hsiang further stretches the meaning of the character *chi* in the sense of "tally" to signify a "medium" for "equalizing or standardizing market prices," and thus infers that this word refers to money. He asserts that this is the reason that its equivalent *chin* became the designation for a kind of money, that is, the spade.²⁰

The interpretations are too elaborate and distorted to be convincing. In the following we shall attempt an explanation which, we hope, may be more natural and logical. In the absence of any historical data relevant to the *chin* as a monetary unit, we shall base our interpretation on the structure of the character.

The basic component part of our character 斤 is 斤, pronounced also *chin*. There is no doubt whatsoever that etymologically the former developed from the latter. Though ever since the time of imperial Ch'in (221—207 B. C.) 斤 is generally used as the term for a measure of weight equal to sixteen *liang* (Chinese ounces), this usage seems to have been lacking in the Chou period.²¹ Originally the

¹⁸ Liu Shih-lu, *op. cit.*, 1a—1b.

¹⁹ Wang Lien-shêng's 王廉生 article has been reproduced in its entirety in the *Ku ch'ien ta-tz' ŭ-tien*, VIII, 21a.

²⁰ "Ku pu chin tzŭ chih yen-chiu, 2," *Ch'üan-pi*, No. 24, 10.

²¹ In the literature of the Chou period the character is always, as far as we know, mentioned together with money in the sense of a monetary unit. When so used, it is the abbreviated form of the monetary unit *chin*.

character meant "ax," or, to use Hsü Shên's words, "the ax for cutting wood."²³ It is our belief that the character 鉞, which is derived from 斤 denoting ax, may have been used at the beginning to denote the same implement.

Our assumption is supported by evidence from the texts of the *Kuan-tzŭ* and the *Chuang-tzŭ*.²³ The two passages are analogous in structure and meaning. In the *Kuan-tzŭ* it is said that the carpenter needs to have a *chin* 斤 and a *chü* (saw). The similar sentence in the *Chuang-tzŭ* gives the tools of the carpenter as *chin* 鉞 and *chü*.²⁴ Thus the character 斤 is used to the exclusion of 鉞 in one text, and vice versa in the other. According to Lu Tê-ming (d. ca. 630), in an early copy of the *Chuang-tzŭ* not accessible to us, the character 鉞 was replaced by the character 斤.²⁵ This is indisputable evidence of the interchangeability of the two characters. Hence Chu Ch'i-fêng has good reason to maintain that 斤 and 鉞 are but the simple and the complex form of the same character, possessing the same pronunciation and consequently the same meaning.²⁶ They both refer to the same tool, the ax. The comment of Hsü Shên, that 鉞 is the equivalent of "to cut or sever evenly or regularly," simply refers to the action of the tool.

How did it happen then that the name of the ax came to be used as a monetary unit? The only possible explanation is that at the time when the ax first came to be used as a monetary unit, one spade coin could buy one ax. Since the ax was a universal tool, indispensable to every household in ancient China where the forests were far more extensive than today, the most obvious reason is, that it was employed as an article to measure the exchange value of a spade coin of a certain weight. For some unexplained reason only the people in the spade area used this device.

Since it was an exclusive monetary unit of the spade coin, the spade coin could of course be so designated. Thus instead of saying

²³ *Tuan-shih shuo-wên-chieh-tzŭ chu*, XIV, Part 1, 8b.

²⁴ *Kuan-tzŭ*, XXII, 3b.

²⁵ *Chuang-tzŭ*, IV, 17a.

²⁶ Note to *Chuang-tzŭ*, *ibid.*

²⁷ Chu Ch'i-fêng 朱起鳳, *Tz'ü-pung*, 1934, 1752.

how many spades of certain *chin* denominations, the people might say how many *chin* of the spade, or simply how many *chin*. In the literature of the late Chou period, such as the *Chan-kuo ts'ê* and other contemporary works, we frequently meet with the monetary expressions of "so many *chin* 金" and "*chin* 金 of so many *chin* 斤". The character *chin* 金 in both expressions is not to be understood as meaning "metal" or "gold" as generally it has been; it means a money or a specific money, as it is used in the legends of the Special Old Spades of Liang. The character *chin* 斤 is used as a monetary unit, and not to be confused with the weight measure *chin* of post-Chou origin (usually rendered as "catty"); it is the abbreviated form of the *chin* 斤 under discussion. Thus the two expressions should be understood as meaning "so many of the money" and "the money of so many *chin*." The "money" is the spade.²⁷ In the first expression the monetary unit is omitted. "So many the money" actually means "so many money units," the unit of course being the *chin*.

Though eventually it appears to have become the universal monetary unit of the spade coinage and the round coinage in the spade area, the *chin* seems not to have been the original monetary unit of the spade. The original monetary unit or weight unit of the spade was probably the *lieh*. The first appearance of the *chin* as the monetary unit of the spade is in the legends of the Hollow-handle Spades of Mi (PLATE X, 2) and of "San-ch'uan" (PLATE XI, 2). According to our proposed chronology of the spade coinage, these Hollow-handle Spades, being late in shape and design, were the last types of the Hollow-handle Spade as a whole and were in circulation in the seventh and sixth centuries B. C. The adoption of the *chin* as a monetary unit for the spade may not have been much earlier than this date.

The date of the seventh and sixth centuries is significant. The Hollow-handle Spade which is designated as the *chin* or is specified as of one *chin* (ax) denomination is small and light, weighing, as in the case of a specimen in the Museum of the American Numismatic Society, no more than 37.3 grams. But the actual ax must

²⁷ Later, round coins replaced spades.

be much heavier and larger in order to be practical for cutting purposes. Therefore, the actual tool and the coin equivalent to the value of one ax must have been manufactured of different metals. Since the coin is of bronze, the tool no doubt must have been made of iron. Although the beginning of the use of iron in China is still being debated, we gather from literary sources that the metal was common by the middle of the seventh century B. C.²⁸ The *Kuan-tzũ* records that in Kuan Chung's time (d. 645 B. C.) iron was used for making needles and knives for women, ploughshares and weeding spades for farmers, and axes and saws for the cartwright.²⁹ The use of iron tools is also confirmed by a passage in the *Kuo yü* which credits Kuan Chung with saying that the *wo-chin* (bad metal) is to serve for making farming tools.³⁰ The so-called "bad metal" (or "inferior metal") must be iron. At the time of Mencius iron tools were so general that he speaks of farm implements of iron as a matter of course.³¹ It is very possible that the popularity of iron implements was such that the value of the currency was expressed in terms of a particular variety, no doubt the most widely used, of these tools.

The denominational system of the monetary unit *chin* varied with different types of the spades. The Hollow-handle Spades were of only one size, and, therefore, one denomination, one *chin*. With the appearance of the Old Spades its denominations were multiplied. Besides the one *chin* denomination, there were the two and the half *chin* denominations. The Late Spades, except those of the state of Ch'in which had a different monetary unit, had only two sizes and consequently two denominations, the one and the half. All these have been described previously. We have mentioned, too, that not all of the spades have in their legends the name of the monetary unit and its denominations. The omission from the legend of the name of the monetary unit and its denomination, or of the name

²⁸ For a short discussion see Kuo Mo-jo, *Shih p'i-p'an shu*, 50—52. The author bases his information on a passage from the *Kuan-tzũ*, which we have quoted before, and a passage from the *Kuo-yü*.

²⁹ *Kuan-tzũ*, XXII, 3b.

³⁰ *Kuo-yü*, VI, 8b.

³¹ *Mêng-tzũ chu-shu*, *Ssü-pu pei-yao* ed., V, Part 2, 1b.

of the monetary unit alone, is found in cases in which the omission would not cause confusion. Otherwise not only the name of the monetary unit but also the denomination is specified. The time of the Old Spade was still close to the beginning of the adoption of the *chin* as the monetary unit. The system was still new. Therefore, in the legend of every one of the spades preserved today both the monetary unit and its denomination are carefully designated. But the situation with the Late Spade was different. By the time this type of spade appeared, many years had passed. The monetary unit had become customary, and for this reason it could be omitted from the legend and it usually was. Because the Late Spades were of only two denominations differing markedly in size, the specification of their denomination was rendered equally unnecessary, though the denomination of many half *chin* spades was still designated.

The weighing of various specimens in the museum of the American Numismatic Society yielded some interesting points which are demonstrated in the on page 217.

The table shows, first, the weight of the *chin* in any one period is roughly the same, irrespective of the mint. Secondly, the weight of a spade corresponds to its denomination. Thirdly, in the course of about three hundred years the weight of the *chin* became gradually but consistently reduced from 37.3 grams to about 10.

However, a word needs to be said about the spades of Kuo. According to their shape and design these belong to the Late Spade type. Yet in weight they are heavier than the Late Spades from other mints. The half *chin* spade of Kuo weighs as much as the one *chin* spade from other mints, and even equals in weight some of the Old Spades which bear the same denomination. We do not know the economic and political reasons for this difference in weight. However, one thing to be noted about these specimens is the superior quality of the alloy. The spades of Kuo listed in the chart show no sign of oxidization or patination. Their color is dark brown and their condition excellent. If their greater weight is due to this reason alone, it might be closer to the norm of the half *chin* denomination.

<i>Unit (chin)</i>	<i>Mint</i>	<i>Weight (grams)</i>
HOLLOW-HANDLE, SPADE, CA. 500 B. C.		
1	"San-ch'uan"	37.30
OLD SPADES, CA. 400—CA. 340 B. C.		
2	An-i	25.10, 25.61, 30.00, 27.00, 24.50, 24.90, 27.70, 26.50, 27.00, 26.00, 19.00, 24.60, 21.25, 27.40, 26.00, 23.10, 24.10, 28.30, 22.40, 23.70, 24.60, 25.30, 26.60, 28.60, 28.60, 29.85, 29.75, 17.50, 20.20, 26.40, 24.70, 29.30, 24.10, 26.30, 25.60, 24.35, 22.20, 24.00, 20.90, 24.85, 24.80
	Liang	30.50
	Chin-yang	26.65, 20.08
1	An-i	14.00, 15.40, 13.75, 14.25, 14.07, 13.62, 12.56, 13.59, 16.24, 11.00, 14.40, 13.52, 11.50, 12.70, 12.15, 12.25, 12.70
	Liang	13.95, 14.50, 14.55
	Ching	14.62, 18.25
	Yü	13.95, 12.70, 16.65, 13.15
	P'u-pan	14.05
	Chin-yang	14.62
	Yüan	11.61
	?	14.90
1/2	An-i	6.57
	Liang	13.05, 7.35, 7.92, 7.06
	Kung	8.63
	Lu-shih	8.48
LATE SPADES, CA. 370—CA. 250 B. C.		
1	Han-tan	11.87, 10.95, 13.75, 11.20, 11.22, 11.17, 12.60
	Tzŭ-shih	13.17
	Ta-yin	12.52
1/2	Tzŭ-shih	5.30, 4.69, 5.10, 5.45, 4.10, 5.50
	Ta-yin	4.60, 4.78, 5.00, 4.60
	Kuo	14.66, 11.46, 12.86, 14.66, 13.30, 13.00
ROUND COINS, CA. 250—221 B. C.		
1	Ch'ang-yüan	9.55
	Yü	8.22
	Chi-yin	10.20
	"An-hsiang"	9.20, 7.80
	Yüan	9.72, 8.54, 10.15, 8.80, 9.45, 8.15, 10.00
	Kung	9.40, 10.10, 9.80, 9.90, 9.20, 9.71, 8.84
1/2	Chi-yin	4.65

3. THE HUO

The primary meaning of the word *huo* 化 (*hua* in modern script and pronunciation), the monetary designation of the knife, is "to change." From its primary meaning it appears to have derived one of its secondary meanings, "to exchange in trade," as it is used in the often quoted line from the *Shang-shu*, *mao-ch'ien yu-wu huo ku*, "to exchange and transfer surplus and want through trade."³² Since money is the object which consummates exchange in trade, there is every reason to believe that *huo* as a monetary designation and later as a monetary unit must have come from the *huo* as a descriptive word for the action "to trade." In other words, *huo*, originally meaning "to exchange in trade," gradually became the name of the medium with which trade was consummated.

Though it had been used in the legends of the first knife coins of Chi-mo and Ch'i, 𠄎 is not the original form of the character; its original form is 𠄎.³³ In ancient Chinese script, characters often could be reversed without affecting the meaning. Therefore, 𠄎 can be reversed as 𠄎. This latter form appears in the legends of "Ming" and "One *Huo*" round coins as their monetary unit.

Judging from the inscriptions or legends of the knife coins of all types, *huo* seemed to have been merely the monetary designation of the knife when and where it was in circulation. It is possible that, being the monetary designation of a particular currency, *huo* might have been also used as the monetary unit. As a definite monetary unit, *huo* came into being only when the round coinage made its appearance in the original knife area and the other areas where the knife had also become a currency. Thus in the coinage of I there are the one, the two, the four and six denominations based on the *huo*. The denominational system of the round coins of other mints in both

³² *Shang shu*, II, 8a. Legge, *Chinese Classics*, III, 1, p. 78. We have followed Miyazaki Ichisada's 宮崎市定 suggestion in reading the last character in the sentence as *ku* (to trade) instead of *chü* (to stay) ("Ko no kigen ni tsuite," *Tōyōshi kenkyū* 東洋史研究, V (1940), 252—3).

³³ *Tuan-shih shuo-wén-chieh-tzū chu*, VIII, Part 1, 1b. In some inscriptions on the knife coins we do find *huo* written in the original simple form.

the old and new knife areas, being also multiple, might have been the same as that of I.

To find the weight of the *huo* as a monetary unit and the relations between the various denominations, a few specimens preserved in good condition were selected from the collection of the American Numismatic Society and weighed. The results are in the following table:

<i>Type of Coins</i>	<i>Denomination (unit: huo)</i>	<i>Weight (grams)</i>	<i>Design</i>
I	one	2.35	No rims
	"	2.15	"
	"	1.15	With rims
	"	1.10	"
	"	1.35	"
	two	5.52	"
	four	6.00	"
	"	5.45	"
	"	5.77	"
	"	6.15	"
	six	9.40	"
	"	7.40	"
	"	9.05	"
	"	9.30	"
"Ming"	one	2.95	No rims
	"	4.65	"
	"	3.75	"
	"	3.35	"
"One <i>Huo</i> "	one	2.60	With rims
	"	2.57	"
	"	2.47	"
	"	1.37	"

An analysis of the facts shown in the table reveals several interesting points:

1. The weight of the *huo* varies with the type of coins. Within the same type the weight is found to vary with design.

2. As shown by "Ming" coins and the coins of I, the weight of the *huo* of the coins without rims is heavier than those with rims. Since we can reasonably assume that coins without rims are earlier than those with rims, the weight of the *huo* at the beginning of the round coinage in the knife area seems heavier than that of the later issues. The size of the earlier issues is also larger.

3. In the case of the rimmed coins of I the increase in denomination corresponds roughly to the increase in weight.

4. The specimen of the two-*huo* denomination of I (PLATE LV, 2) stands out as an exception; its weight is almost as great as that of the four *huo* specimens of the same mint. This specimen, dark red in color (without patina, and in excellent condition of preservation) appears to have been subjected to much less or no oxidization. Its weight (5.52) may well approximate the original. If this is the case, as we believe it is, the original weight of the *huo* when the rimmed coins of I were cast was at least 2.76 grams.

5. The weight of the *huo* of this two *huo* coin of I is roughly the same as the weight of three rimmed "One *huo*" coins (2.60, 2.57, 2.47) which are also preserved in excellent condition. This further confirms the approximation of the weight of the *huo* of the two *huo* coin of I to the original weight of the *huo* of the time.

6. The weight of the *huo* as 2.76 grams or slightly more derived from the weight of the two *huo* coin of I is very close to that of the rimless one *huo* coins of the same mint (2.35 and 2.15). But since these specimens are badly oxidized, their original weight must have been larger. From this we may infer that at an earlier date when I issued the rimless coins the weight of the *huo* of the coinage of I must have been more than 2.76 grams, which weight is derived from its two *huo* coin with rims — a design which was later in origin. In view of this the weight of the one *huo* denomination of "Ming" coins may well represent the original weight of the *huo* at the beginning of the round coinage in the knife area, for these coins are rimless and are most likely of early date.

7. Granting possible regional discrepancies, the weight of the

monetary unit *huo* in the days of the round coinage appears to have been roughly the same. The rapid reduction in its weight shown in the table is certainly a reflection of the chaotic economic and political condition in the last years of the Chou period, when war was the order of the day and the local powers which cast the coins were on the verge of extinction.

4. THE LIANG

The word *liang* 兩 or 𠔁 (兩 in modern script) meant, and generally still does, "two." Therefore, in Chinese antiquity, two units of any thing which together were considered as one larger unit was called *liang*. Thus, two rolls of silk fabric was called one *liang* of silk. Two "Fives" (*wu*) of soldiers made a military unit which was also called *liang*. Because the carriage and wagon each had two wheels, the unit in counting carriages and wagons was also *liang*. It is only natural, then, to assume that the *liang* as a weight or monetary unit must be a larger unit based on two smaller ones.

In ancient times the Chinese, like many other peoples, used seeds of grain to measure weight. The grain which the Chinese used was *shu* (millet). One *yüeh*, a standard musical tube, contained 1,200 such seeds, which weighed twelve *chu*,³⁴ written 朱 (朱) or 珠 (珠) in the legends of the spades and round coins of the feudatory of Ch'in. "Twelve *chu*" was the smaller of the two denominations of the spade coinage of Ch'in instituted by, as we believe, King Hui-wên in 336 B. C. The larger denomination was one *liang*, which is the denominational specification appearing on the reverse of all of the Ch'in spades of the larger size. As we know that at the time one *liang* was composed of twenty-four *chu*, the denomination of the *liang* was made up of two "twelve *chu*" units. The larger spade weighed twice as much as the smaller, and in denomination it should literally have been called "two twelve-*chu*." But "two twelve-*chu*" cannot be regarded as a convenient terminology. Therefore, follow-

³⁴ *Han shu*, XXI, Part 1, 7b.

ing the customary practice, the unit of double twelve *chu* was designated as *liang*. It is our belief that the *liang* as a weight unit weighing twenty-four *chu* must have come from the *liang* as a monetary unit composed of two "twelve *chu*."³⁵

Only a very limited number of the Ch'in (as a feudatory) coins have been reported. With the exception of Lacouperie, the numismatists who report them do not give their weight. The Museum of the American Numismatic Society has in its collection two Ch'in spades and two Ch'in round coins. Their weights and other particulars are as follows:

Type of Coins	Mint	Denomination	Weight in grams
Late Spade	An-yang	12 <i>chu</i>	9.03
	Hsia-pi-yang	"	10.53
Round Coin		1 <i>liang</i> and 13 <i>chu</i>	8.76 (worn a little)
		1 <i>liang</i> and 14 <i>chu</i>	9.41

³⁵ In his historical account of the origin of *liang* as a measure of weight, Pan Ku, author of the *Han shu*, states that "one *yüeh* contained 1200 *shu* (seeds), weighing twelve *chu*. By doubling this the *liang* was made." He states this as a matter of fact and does not point out the reason why the *liang* was made by doubling the weight of "twelve *chu*." Why not triple it? The investigation of the spade coinage of Ch'in and its denominational system offered us the first opportunity to discover the origin of the *liang* as a weight unit. It grew out of the *liang* as a monetary unit. In this connection it is interesting to note that the early sub-unit of the *liang* (i. e., the *chu*) was later also changed because of another monetary reason. The new sub-unit which replaced the old *chu* is the *ch'ien* 錢 (literarily coin) which remains in use today. The substitution of *ch'ien* for *chu* took place in the seventh century A. D. when ten *ch'ien* (coins) used at the time weighed exactly one *liang*. Thereafter one *liang* was always equated with ten *ch'ien*, and the equation of "twenty-four *chu*" was abandoned. Hence today everyone knows "ten *ch'ien* make up one *liang*." But the origin of the expression has been completely forgotten and known only to numismatists. Ts'ai Yün is the one who should be given the credit for the discovery (*P'i-t'an*, I, 9b). Developed out of a monetary unit also is probably the weight unit *chin* (catty), with the monetary unit *chin* of the spade being its origin. A discussion of this question will involve much space and must be postponed to another occasion.

Lacouperie reports a round coin of 1 *liang* and 14 *chu* denomination as weighing 171 grains³⁶ or 11.08 grams.

A glance at the above table shows the common phenomenon of reduction in weight in the coinage of Ch'in. In spite of its power and prestige at the end of the Chou period, its round coins, although of a denomination triple that of the two listed spades, about equal them in weight. Thus the monetary unit *liang* in the days of the round coinage was in weight only a third of what it was in the days of the Late Spade.

The literary sources of the Chou period contain no information whatsoever concerning the condition of the public finances of the contending states during the later part of Chou. The coinages constitute the only source of information on this question. Financially, wars had benefited neither the aggressor nor the attacked. They depleted the treasuries and caused inflation and reduction in weight in the coinages of both the victor (Ch'in) and the vanquished (Ch'i, Yen, Han, Chao, Liang).

Regarding this point it is worthwhile to mention that after conquering the whole of ancient China and establishing himself as the sole ruler of China in 221 B. C., the First Emperor (*Shih-huang-ti*) of Ch'in immediately put his coinage on a sound basis and cast the Pan-liang (i. e., twelve *chu*) coin and ordered its weight to correspond to its denomination.³⁷ Many Pan-liang coins are preserved today; their average weight is about 10 grams, the same weight as the "twelve *chu*" (i. e., pan-*liang* or half-*liang*) of the state coinage of Ch'in when this was established in the fourth century B. C.

³⁶ *Catalogue of Chinese Coins*, 321.

³⁷ *Shih-chi*, XXX, 21a, and *Han shu*, XXIV, Part 2, 2a.

IX. THE RIGHT OF COINAGE IN CHINESE ANTIQUITY

Because our knowledge of the political and economic institutions of the Shang period is so fragmentary we have no evidence, either direct or indirect, on coinage rights before the Chou period. A similar lack of information exists for some of the states known to have cast coins in the Chou period, namely Chi-mo, An-yang and T'an, which were outside the Chou kingdom until the latter part of the seventh century.

Direct information on coinage rights in the Chou kingdom itself is scanty. A passage in the *Kuo yü* states that in 524 B. C. King Ching of Chou cast "big coins." The Chou royalty, as would be expected, possessed the right to cast coins, but whether the princes below the king, the nobility below the princes, the heads of tributary states subject to Chou, and the common people at the bottom of the social hierarchy, had the same right, we do not know. It is true that a passage in the *Shih-chi* records that King Chuang (613—591 B. C.) of Ch'u cast "big" coins to replace "the small" ones which fact indicates that the head of a vassal state had the right of coinage. It is not certain, however, that the record is reliable. Even if it is reliable, we are still not certain how far we can generalize in this case because Ch'u, being an old state subject to Chou, was different from the feudatories which were created anew by Chou. In the absence of direct and reliable information, we shall have to investigate the problem of the right of coinage in general from indirect sources.

As it can be assumed, the right of coinage in Chou China was bound up with the feudalism which, in our opinion, was the prevailing feature of the political organization of the period. The question is to what extent were power and privileges granted to the princes and the lesser nobility under the Chinese form of enfeudation, and to

what extent was autonomy permitted to the subject states. Here it is not necessary to enter into detailed discussion of the structure of the political feudalism in ancient China, to refute incorrect explanations or to defend our own interpretations. For the present purpose, a general description will suffice.

In the first part of the Chou period, the Chou kingdom was made up of the royal domain, the principalities which were fiefs of royal relatives and meritorious ministers, and the tributary states which had submitted to the Chou after it conquered the Shang.¹ The case of the tributary states being comparatively simple, let us first look at the powers and privileges of their princes. By bestowing land upon them, the king made them virtually owners of the land and of the people within its boundaries, as he was owner of the kingdom through grant from Heaven. The princes apparently had full power of disposition over both the land and the people. They could parcel out their land and grant it to their relatives and subordinates as fiefs with only a

¹ In all the writings about the political organizations of Chou no distinction has ever been made between these two categories of subject states of Chou. They have always been treated as the same and lumped together under the general appellation, *Chu hou kuo* 諸侯國 or "the states of the *hou*." *Hou*, which term has been unsatisfactorily rendered as "Marquis," originally meant "military scout" or "military outpost." It finally became the designation for the king's man who received the authority to rule and guard a frontier region for the purpose of protecting the Chou royalty. The region was granted to him as his fief from which he was to exact whatever he needed. In theory, his fief was the property of the king who alone had final authority over it, but in practice the *hou* kept it as his own possession and handed it down to his children. In the fief, which is generally called "principality" in the text, the governmental organization was modelled in smaller scale on the organization of the Chou royal court. Hence the identity of official titles of the royal court and the principality. The persons who received a principality were either relatives of the royal house or meritorious assistants of the king. As inferiors to the king they were never called *wang* 王 (king) before the fourth century B. C.

The tributary states were old states which submitted to Chou voluntarily or by compulsion short of force. Their original political organization was retained, and so was also the title of their rulers, *wang*. Hsü 徐 in modern northern Kiangsu and Anhui, Wu 吳 in southern Kiangsu, and Ch'u 楚 in Hupeh were the most famous of them. Strictly speaking, the head of a tributary state was not regarded as a *hou* of Chou; nor was he so called. Usually he called himself *wang* (king), though the Chou authority called him *po* 伯 (chief) or *fang po* 方伯 (chief of a state).

nominal sanction by the king. They exacted labor service and subjected their people to various demands. They kept a standing army commensurate with the size of their fief, and possessed complete authority in judicial administration. If the words of Kuan Chung are to be believed, a large feudatory, such as Ch'i appears to have been granted the power to launch military campaigns against feudatories and tributary states should the latter disobey the wishes of the king or fail to fulfill their obligations.²

With regard to the king, the princes were obliged only to pay periodical visits to the royal court, offer annual tribute, and render military assistance in case of war. At the beginning of the dynasty the king seems to have set up some sort of inspectorate known as *chien* in certain of the feudatories in order to watch over the conduct of the princes, but these particular princes were all descendants of the conquered Shang and therefore were exceptions. The general supervision which the king imposed upon the princes through royal appointment or sanction of their officials of the "ministerial rank" (*ch'ing*) gradually lost its significance and became a mere formality by the end of the eighth century.³

Of course, not all the feudatories were of the same magnitude and status. The princes under Chou are said to have been grouped ac-

² *Tso chuan*, XII, 6a.

³ In the *Wang chih* or "Royal Regulations," which was written in the first half of the second century B. C. and is contained in the present text of the *Li chi*, it is stated that the Son of Heaven, i. e., the King of Chou appointed all three officials of "ministerial rank" (*ch'ing*) of the large principality, two of the three of the second-rate principality, and neither of the two of the smallest principality. This reported regulation, which is partially confirmed, appears to be a supervisory measure by the king over the large feudatories. It is so interpreted by the Han scholars who prepared the document just referred. But whether the Han scholars' statement on the "Royal Regulations" entirely corresponds to the fact and whether the supervisory measure was effective are both uncertain. Even if so, the measure did not remain effective for long. For as early as 709 B. C. the Chou king had already become merely a titular authority in the matter of the appointment of the ministers of the large principality. In this year Duke Wu of Ch'ü-wo (i. e., Duke Wu of Chin) promised Juan Kung-tzū to recommend him to the Chou king and have him appointed as the first minister for the state of Chin (*Kuo yü*, VII, 1a).

cording to the "Five Ranks" and their states given status accordingly, a system which may not have functioned as systematically as later historians would have us believe,⁴ but it appears certain that gradations in the status of feudatories did exist. Three classes of princes are mentioned in bronze inscriptions,⁵ and also in the chapter "K'ang kao" of the *Shang-shu*.⁶ However, no matter whether their territory was large or small, whether their rank was high or low, the princes were all granted the same basic privileges, which, though varying in degree, were essentially identical.⁷

As to the tributary states, of which the most famous ones were Hsü, Ch'u and Wu, their relationship to the king of Chou was more loose. The *chien* inspectorate system is not known to have extended to them. Nor did the king appoint their high ministers. As a matter of fact, the rulers of these tributary states also entitled themselves *wang* (king), the same title used by the Chou sovereign. It appears that, at least in name, the sovereign of Chou and the rulers of tributary states were all heads of states; they were all "kings."⁸ Inasmuch as their relationship to the Chou king was loose, their obligation to him must have been smaller, and consequently their autonomous power must have been greater.

What has been said about the prince in relation to the king may, in a minor degree, hold true of the relations between the prince and the

⁴ For critical studies of the systematization of the so-called "Five Ranks" see Fu Ssü-nien, "Lun so-wei wu-têng-chüeh," *Chung-yang-yen-chiu-yüan li-shih-yü-yen-yen-chiu-so chi-k'an*, II (1930), 110-129, and Kuo Mo-jo, *Chung-kuo ku-tai shê-hui yen-chiu*, 1930, 3rd ed., 305-310.

⁵ They are the *hou* 侯, the *tien* 甸 and the *nan* 男 as mentioned in the bronze inscription of the "Ling i" (Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi k'ao-shih*, 5b).

⁶ *Shang shu*, VIII, 1a.

⁷ Such as the governmental organization and military forces. A principality of the first class is said to have three officials of the "ministerial rank" and a principality of the second class only two. A principality of the first class maintained three standing armies (*chün*), while a principality of the second class could keep only two.

⁸ Some of the tributary states forfeited the title of *wang* (king) and satisfied themselves with the title of *po* after they had entered a closer relationship with the Chou king.

lesser nobility whom he enfeoffed. These lesser nobles in the principalities were the prince's governmental functionaries. In return for their services the leading officials were granted fiefs consisting of sizable areas of land including one or more cities or towns. The inferior ones were given smaller fiefs in terms of a number of *i*, which was a local administrative unit. These fief holders in turn delegated their authority to their underlings who had the same obligations to them as the fief holders had to their patron, the prince. They may reasonably be assumed to have been entitled to privileges similar to those of the princes, only on a smaller scale.

Marked changes in the relations between the royal court and the principalities and the tributary states began with the Ch'un-ch'iu period (770—481 B. C.), after King Yu was killed by the invading Ch'üan-jung barbarians and the armies of two rebel feudatories in 771 B. C. In the following year the new king, King P'ing, abandoned the old capital of Tsung Chou in modern central Shensi and moved to Ch'êng Chou or Lo-i in modern central Honan. This event caused the royal court of Chou to lose a great part of its domain in the west and an immeasurable amount of power and prestige. During some five hundred thirty years which followed, the royal power of Chou was on a steady decline.

In 707 B. C. the state of Chêng, bordering the royal domain on the south, rebelled against the Chou king, and in a battle the king was wounded by a Chêng general. After that, the Heavenly King suffered disgrace upon disgrace. The principalities assumed complete independance, ignoring their obligations. During the two hundred forty-two years from 722 to 481 B. C. the princes of the state of Lu had only two audiences (*ch'ao*) with the Chou king and visited (*ju*) the royal capital only once; while, on the other hand, they paid eleven courtesy calls on the state of Ch'i and twenty on the state of Ch'in. To the seven visits by the envoys of the king the princes of Lu returned only four through their emissaries.⁹ With the reduction of its ceremonial obligations Lu stopped also its material obligations

⁹ See Ku Tung-kao, *Ch'un-ch'iu ta-shih piao*, XVII, 1a—1b, the introductory words.

toward the Son of Heaven. Yet Lu was only a small state; the conduct of the bigger and more powerful states can easily be visualized. As a suzerain power the royal court of Chou was now more nominal than real. Thus the regional autonomy which was inherent in the very nature of political feudalism and which had made its existence apparent from the very beginning came into the open and in full power.

Local autonomy displayed itself in a number of other ways. Ignoring the authority of the king, who alone was supposed to decide upon waging war or making peace, the powerful princes independently warred against the lesser states and annexed them to their own territories, regardless of the fact that these states had been created by mandate of the Chou king just as had their own fiefs. Rebelling again against old traditions, the states of Chêng and Chin proclaimed new law codes,¹⁰ and the state of Lu introduced taxes on private land.¹¹ In defiance of the "Royal Regulations" Lu set up three armies instead of the two allowed to it by law,¹² and similarly Chin established six armies instead of three.¹³ Both Lu and Chêng adopted new ways of exacting military service and military contributions.¹⁴ Arrogating to themselves the prerogatives of the Son of Heaven, the most powerful princes compelled the weaker feudatories to divert the tribute due the royal court to them.

While the principalities achieved autonomy, the tributary states attained complete independence. Within the feudatories the princes experienced similar decline of power as did the king in the kingdom.

¹⁰ *Tso chuan*, XLIII, 8b—11a and LIII, 6b—7a.

¹¹ In the *Ch'un-ch'iu*, supposedly annals of Lu, it is recorded that in 594 B. C. the State of Lu introduced the taxation on the *mou* 畝. (*Tso chuan*, XXIV, 4a). *Mou* was the measure of surface of especially cultivated land. Interpretation of the terse statement varies with different scholars. But we believe that it means a tax on privately owned land which by this time had made its appearance. Kuo Mo-jo also thinks that it was a tax on private land, but differs from us in the interpretation of the social status of the owners of such land. While we think that they were the wealthy common people, he asserts that they were the nobility. (See his *Shih p'i-p'an shu*, 41—42).

¹² *Tso chuan*, XXXI, 7b.

¹³ *Tso chuan*, XXXI, 3b.

¹⁴ See Ku Tung-kao, XIV, 1a—3b.

In the state of Chin the princely power had long been contested among the important noble families, three of which eventually divided the principality in 431 B. C. into three states: Han, Cha and Liang (Wei). The real power of the state of Lu was in the hand of three families from whom the prince was never able to retrieve it. From the sixth century on, the most important noble family in the state of Ch'i was the T'ien (Ch'ên in the bronze inscriptions), which became so arrogant that it established its measures of capacity side by side with the official measures of the state¹⁵ and eventually usurped the reign in the seventies of the fourth century.

All of this we learn from either literary sources or archaeological evidence. There must have been many other similar events about which records were not made or have not been preserved.

In the Chan-kuo period (403—221 B. C.), we find that the authority of the Chou king was further curtailed, if indeed he still had any authority beyond his own domain at all. In the fourth century all the princes of the major states had appropriated the title of "king" (*wang*), thus elevating themselves formally to equality with the Chou royalty, though in reality they were much superior in power. As a consequence, the old Chou king could lay claim to no more special privileges.

With the deprivation of the exclusive use of the title of "king" came further reductions of the domain of Chou. In 426 B. C., the principality of Eastern Chou was established, occupying its eastern section to match the Western Chou principality which occupied the western section. As a result, what was left of the Chou domain was but the city of Lo-yang (east of its modern city namesake in central northern Honan) with the limited surrounding area. In 367 B. C. the states of Han and Chao made Western and the Eastern Chou autonomous and brought them under their respective domina-

¹⁵ This is recorded in *Tso chuan*, XLII, 4b. Both bronze and pottery measures of capacity of the T'ien (Ch'ên in the inscriptions on those measures) family have been found. For the inscriptions on the bronze measures see Kuo Mo-jo, *Liang Chou chin-wên-tz'ü ta-hsi h'ao-shih*, 221a—223b.

tion.¹⁶ They thus deprived Chou of its last two feudatories, and reduced it to a city. The last king of Chou, King Nan, becoming king in 316 B. C., had to abandon his city and go to the Western Chou for protection.¹⁷ Actually Chou was no more, though officially it ended in 256 B. C. at the death of King Nan.

The above historical description of some features of the political feudalism of the Chou dynasty and especially concerning the relations between the royal court and its princely states and between the princely house and the lesser nobility, shows that enfeudation under the Chou system was a grant of important privileges and a delegation of administrative powers approaching autonomy. Whatever the incipient features of Chou feudalism, the feudatories, especially the large ones, eventually attained independence by neglecting their obligations to the royal court, by extending the basic privileges granted, and by assuming many others which may or may not have had a legal foundation. Since, from the very beginning, the principalities possessed authority over the land and the population within their boundaries, and since from the eighth century on they became independent, establishing their own institutions in financial, legal and military matters, it should be beyond any doubt that they also had the right of casting coins. The same must be true of the tributary states.

That coinage in China of Chou was not a royal prerogative but a privilege enjoyed by the feudatories and tributary states as well seems to be borne out also by the varieties in the shapes of the coins and by the differences in monetary designations and monetary units of the coinages of the period. In the state of Ch'i the coinage was the knife. In Ch'u it was the *yüan-chin*. In the royal domain of Chou and other states it was the spade. Each had a special monetary unit, and each its own denominational system. Different from all other states, Ch'u cast coins of gold.

¹⁶ *Shih-chi*, XLIII, 17b and IV, 34b.

¹⁷ This is the interpretation derived from the statement made by Ssü-ma Ch'ien in *Shih-chi*, IV, 34b.

In 336 B. C. when the state of Ch'in established and issued its official currency (Late Spade IV), King Hsien of Chou hastened to send his congratulations on the event. The action of the Chou royalty implies not only that the state coinage of Ch'in was not a royal grant but also that it had nothing to do with the time-honored royal superiority of Chou. As a matter of fact, it is improper for us to speak of "royal grant" at this point because at this time the ruler of Ch'in had already assumed the title of "king" himself and had thus elevated himself to the same level as the Chou royalty. It is altogether out of the question that the action of one king had to be ratified beforehand by another.

The coin specimens do not reveal whether the lesser nobility in the principality had the right of minting coins, but many mint names of the spades were names of cities or towns held as fiefs by lesser nobles at the time the coins were cast. Chih of the Hollow-handle Spade (PLATE IX, 2) was the fief of the Chih family (Hsün Ying and his descendants) of the state of Chin from the end of the seventh century on.¹⁸ Tung Chou (Eastern Chou) was a feudatory established in 426 B. C., and as a mint it cast the small Hollow-handle Spades bearing its name (PLATE XII, 3). Chin-yang was the fief of the Chao family of Chin during the Ch'un-ch'iu period and the first capital of the state of Chao established by the same family at the beginning of the Chan-kuo period. Bearing the name of the city are both Old Spades (PLATE XIII, 3—5) and Late Spades (PLATE XXI, 1—3) which were cast when the city was in the possession of the Chao family. P'ing-yang was the seat of Lord of P'ing-yang enfeoffed by the prince of the state of Chao. The preserved coins bearing the name of the city are Late Spades which were in circulation in the corresponding period during which the city was in possession of the Lord of P'ing-yang.¹⁹ The mint of Wu-an of the Late Spades (PLATE

¹⁸ Quite a few passages to this effect are found in the *Tso chuan*. References in the *Kuo yü* are XIII, 1a and XV, 7a. The original family name of the holder of the fief of Chih was Hsün; they were called Chih after the name of the fief.

¹⁹ See *Shih-chi*, LXXIII, 2a and LXXVI, 6a.

XXI, 6) is the fief of Lord of Wu-an, Su Ch'in, enfeoffed by Marquis Hsü (349—326 B. C.) of Chao, when that type of spade was in circulation.²⁰ The mint of the Late Spades of An-yang (PLATE XXII, 2—3, to be distinguished from the An-yang of Ch'in established in 257 B. C. which cast Late Spade IV) was the fief of the eldest son of King Hui-wên of Chao from 296 B. C. on.²¹ The An-yang Late Spades were issued before the middle of the third century B. C. During the round coinage period, Tung Chou and Hsi Chou (Western Chou) cast this type of currency (PLATE LIV, 5; LIII, 6 respectively). Both were feudatories when the round coins were in use.

We can add to the list a few more mint names of spades which were also the names of cities or towns held as fiefs by the lesser nobles in various principalities. Those mentioned already should be sufficient to illustrate our point that minor fief holders appear to have enjoyed the privilege of coinage. It may be questioned how one can assert with assurance that the spade coins bearing the names of certain cities held as fiefs by the lesser nobles did not come from the mint of the prince who, for one reason or another, had the names of particular localities inscribed upon it.²² To be sure, in such details of history there is seldom absolute certainty, but, considering the general feudal pattern prevailing at that time, our assumption seems plausible.

Further evidence for the assumption is derived from the fact that the names of feudal states never appear as mint names on the spade coins. If coinage had been a prerogative of princes which was denied to the lesser nobility, the name of their state rather than local cities should have been given in the legends. This happens nowhere, for even the coins from the mint of the prince bear only the name of the city which is his capital. It appears that, as far as

²⁰ *Shih-chi*, LXIX, 17a—17b.

²¹ *Shih-chi*, XLIII, 27b—28a.

²² Coins inscribed with the names of the local mints are found in the coinages of a number of later imperial dynasties, when coinage was an imperial prerogative and private casting was forbidden. Among them the best known are the coins of the Ch'ing or Manchu dynasty.

coinage is concerned, the king minted coins for circulation in his domain; the prince could do the same for his principality; the head of a tributary state for his realm; the lesser nobles for their own fiefs.

However, the situation in the state of Ch'i during the period of the Early Knife seems to be different. As far as the many hundreds of the Early Knives of that state are concerned, they all bear the name of the state, Ch'i, not of the name of its capital (Ying-ch'iu, later Lin-tzŭ) or of any other city or town. This characteristic seems to have a profound implication, if the style of inscription of the coin had anything to do with the right of coinage. If it did, and so it appears to us, the prince of Ch'i possessed the exclusive right of coinage during the period of the Early Knives, just like the rulers of Chi-mo, An-yang and T'an, which were then independent states in the east beyond the boundaries of the Chou kingdom. At this point it may not be superfluous to repeat our suggestion that the first knife coinage of Ch'i probably was an imitation of the coinage of those eastern states. Even if the right of coinage was a princely prerogative in the state of Ch'i, we are not at all certain whether open or clandestine minting of the official currency by the lesser nobility or private individuals was countenanced. During the late Ch'un-ch'iu and early Chan-kuo periods, when the Late Knives were in circulation, the prince's exclusive right of coinage seems to have disappeared. At this time T'an, an ancient autonomous state which had been annexed by Ch'i to form part of its territory, cast its own knives, of which hundreds have been recovered in modern Po-shan county in eastern Shantung. A passage in the *Mo-tzŭ*, which probably was written by a disciple or follower of Mo Ti (fifth century B. C.) in the state of Ch'i in the fourth century, states, "The kingly knife never changes."²³ This statement would indicate that, at the time the passage was written, there were already knife coins other than those issued by the king of Ch'i.

²³ *Mo-tzŭ*, X, 15a.

The coinage of the state of Ch'u presents a similar picture to that of Ch'i, but, unlike that of Ch'i, the mint names of the *yüan-chin* of Ch'u are the names of the capitals (Ying, Ch'ên) of the state. In this case, the name of the capital was used in the same sense as the name of the state. The use of the name of the state capital as mint name may also signify a centralization of the right of coinage. But the *yüan-chin* discovered so far have been few in number. Any conclusion based on a limited quantity of material may not correspond to the fact.

The first state monopoly of coinage about which we are fairly sure was the state coinage established by King Hui-wên of Ch'in in 336 B. C. The monetary policy of King Hui-wên was followed by his descendants, and was applied to the whole of ancient China in 221 B. C. by the First Emperor (Shih-huang-ti) after he conquered the other states and unified China.

Leaving the problem of the right of coinage enjoyed by the aristocracy of Chou and its tributary states, we come finally to the problem of the right of coinage enjoyed by the common people. Our question is: Were people of common origin in the state of Ch'in before 336 B. C. and other states before 221 B. C. allowed to cast coins? Regarding this question, there is absolutely no information of either early or late origin. However, an indication may be obtained from the policies, especially the monetary policy, of the founder of the Han (or Former Han) dynasty (206 B. C.—8 A.D.) which replaced the Ch'in dynasty. The essence of the policies of Liu Pang, founder of the Han, in civil affairs was to reverse the centralization of Ch'in and to restore the traditions of the old Chou.²⁴ Abolishing the centralized administration of Ch'in, Liu Pang restored the feudal political system of Chou by setting up feudal states in the greater part of the Han empire. Abrogating the imperial monopoly on the production of salt and iron, he made them free industries. Abandoning the imperial prerogative in coinage, he

²⁴ See Wang Yü-ch'üan, "An Outline of the Central Government of the Former Han Dynasty," *Harvard Journal of Asiatic Studies*, XII (1949), 134—187.

“ordered the people to cast coins,”²⁵ to remedy, as contemporary statesmen and writers used to say, “the abuses of the Ch’in dynasty.” Since these “abuses,” which included the imperial monopoly of coinage, were of Ch’in creation, Liu Pang’s decree of free coinage must be understood as a restoration of a pre-Ch’in or Chou tradition. Therefore, it is our belief that during the Chou period, at least during its later part and specifically before 336 B. C. in the state of Ch’in and before 221 B. C. in the other states, whoever had the means among common people were allowed to cast coins.

²⁵ *Shih-chi*, XXX, 1a.

APPENDIX I

OBJECTS WRONGLY REGARDED AS MONEY

In catalogues one usually finds illustrations of some objects which have been regarded as money or media of exchange at some time or other in Chinese antiquity. Scrupulous numismatists classify them as "Money That Cannot Be Investigated" (*Wu k'ao ch'ien*) and some dealers have called them "barter money." These objects are the so-called *Ou hsin ch'ien* (Lily-root-heart money), the *Ling ch'ien* (Bell money), the *Ch'iao pi* (Bridge money) which is also called *Ch'ing pi* (Dingle-dangle money), and the *Yü pi* (*Fish money*), etc.

Lacouperie has shown that the "Lily-root-heart money" was not money.¹ We must add, however, that at the time the so-called "Lily-root-heart money" inscribed with the date of "Yüan-yen ssü nien" (9 B. C.) was made, the official money for ordinary use was *Wu-chu* copper cash (silver and gold was used only rarely). The coin was round in shape with a square hole in the center, the standard shape and design ever since 221 B. C. As money the *Wu-chu* was immeasurably superior to the "Lily-root-heart money." The two forms could not have been circulating as money side by side with each other. It is irrational to assume that such a crude and clumsy object as the "Lily-root-heart" had been used as money at a time when the Chinese monetary system had had a history of centuries and had reached the peak of its development (so far as its shape and design are concerned) before the introduction of Western methods of striking at the end of the nineteenth century. Furthermore, "Lily-root-heart" as money is not found in the *Shih huo chih* (Treatise on Food and Money), Chapter XXIV of the *Han shu*, the second part of which is

¹ Lacouperie, *Catalogue of Chinese Coins*, XXXI.

a rather detailed record of the governmental finance and the minting of money from 221 B. C. to 23 A. D.³

We do not know to what use the "Lily-root-heart" was put during the Han times. Lacouperie suggests that it might have been a sort of tally, but he offers no proof.

There is abundant proof that the "Bell money" was not money. The most convincing is the fact that bells of the shapes in coin catalogues have been found in tombs of the Han or post-Han period together with the *Wu-chu* coins. For instance, in the tombs designated as A 5 and A 7 at the Tou-chi-t'ai (Fighting Cocks Terrace) in Pao-chi county in western Shensi such a bell was recovered together with 162 *Wu-chu* coins. In the tomb designated as D 4 one such bell was found together with 38 *Wu-chu* coins. In tomb D 5 one bell was discovered with 3 *Wu-chu* coins.³ For practically the same reasons we rejected the so-called "Lily-root-heart money" as money, we must reject the bells also.

The so-called "Dingle-dangle money" is a miniature of an ancient musical instrument called the *ch'ing*, whence the numismatists' term "*Ch'ing pi*." Looking like a miniature musical instrument, the object was buried with the dead to be used by the soul in the other world. This explanation of their use resulted from investigations of Shang Ch'êng-tso, who studied the report of the finds in an old tomb of the house of Ch'u, a feudatory of Chou, discovered in Ch'ang-sha, Hunan.⁴ Shang Ch'êng-tso's finding should be sufficient to disprove the allegation that the object at issue was money.

Of the four kinds of objects mentioned above only "fish" remains to be investigated. While the credulous numismatists who believe that it was money offer no proof, we have no direct evidence to dis-

³ This chapter of the *Han shu* has been translated by Dr. Nancy Lee Swann and published by the Princeton University Press under the title, *Food & Money in Ancient China*, 1950.

³ Su Ping-ch'i 蘇秉琦, *Tou-chi-pai kou-tung-ch'ü mu-tsiang*. (Peiping, 1948), pp. 16 and 27.

⁴ Shang Ch'êng-tso, *Ch'ang-sha ku-wu wen-chien chi*, II, 22a—22b.

prove it. The fish as illustrated in the catalogues of Chinese coins and in the articles on Chinese primitive money are largely of two kinds, different in shape and in skill of casting. While one type is slender and finely cast, the other is thicker and crudely made. The size varies in both types. According to their size, Nishimura divides them into three major classes: large, medium and small, the last of which is further divided into seven minor groups based on slight differences in designs.⁵

Invariably, all of them, large or small, finely or crudely made, have a hole in the head. This is probably the reason which leads numismatists to the belief that they were money. Reports say that most of the fish have been unearthed along the Yellow River in Honan, but the circumstances in which they were discovered are not known. In the tomb designated as F 5 at the Tou-chi-t'ai, Pao-chi, Shensi, 93 pieces of copper fish of the crudely made variety were unearthed.⁶ None was found in any other of the 103 tombs in the same area. Judging from the position in which they were discovered, Su Ping-ch'i, who took part in the excavation, thinks that they were ornamental objects for the coffin.⁷ According to Su's chronology which is based on the shape of the legs in the early tripods (called *li*), the tomb containing the bronze fish should be dated to the so-called "short-legged *li*" period, which falls within the Chou dynasty. Yet for this period, we cannot find any historical record or archaeological evidence which would indicate that bronze fish had been used as money at this time.

⁵ Nishimura, *op. cit.*, 29 and illustrations on 30.

⁶ Su Ping-ch'i, *op. cit.*, 34, 100, 252, 268.

⁷ *Op. cit.*, 100.

APPENDIX II

SPADES OF PROBABLE POST-CHOU ORIGIN

(PLATE XVII)

Among preserved spade coins there is one type which may have a post-Chou origin. So far as discovered, spades of this type are of two sizes, both of which appear to have been contemporary. The larger is distinguished by its extraordinarily long body and slender shape (PLATE XVII, I). It bears a legend of five characters on the obverse and another of two on the reverse. The content of both is unusual.

Because of these characteristics the spade has attracted much attention, and its legends have had various decipherments. The two-character legend on the reverse is not difficult to read: it is *shih huo* 十貨 or "Ten *huo*" as generally accepted by numismatists. As has been discussed in Chapter VIII, *huo* was the monetary unit of the knife coinage.

Unlike that of the reverse the obverse legend of five characters has remained a controversial subject up to today. The author of the *Ch'ien hui* (*Comprehensive Catalogue of Coins*) reads it *ch'u pu tang shih huo* 殊布當十化, meaning "Special spade equivalent to ten *huo*." Ma Ang reads it as *ch'i pi tang chin shih* 族比當斤十, which according to his interpretation means "Long (coin); Compared with (another coin) it is worth ten *chin*." *Chin* as a monetary unit has also been discussed in Chapter VIII. Chiang Tê-liang (Ch'iu-shih) and Sun Hsing-yen (Yüan-ju) read it as *fu pi tang shih chin* 扶比當十斤, which, in their opinion, means "Four of this coin are equivalent to ten *chin*." This decipherment and interpretation is accepted by the famous numismatist, Ch'u Shang-ling.¹

For the sake of convenience, let us separate the whole legend into two parts, with the first two characters constituting the first

¹ The various decipherments suggested by Chinese numismatists for this inscription can be found in Ting Fu-pao, *Ku ch'ien ta-tz'ü-tien*, VIII, 23b-25b.

part and the other three characters the second. In respect to the first two characters, none of the decipherments can be regarded as satisfactory. In fact, those decipherments are so ill-founded epigraphically and the interpretations suggested for them are so artificial that they can hardly convince any one. In 1903 Ch'in Pao-tsan in his *I hsia lu* proposed to read the first two characters as *P'ei ch'ien* 沛錢.² As we have mentioned previously, *ch'ien*, written 錢 in modern script, was another name for spade coins. Ch'in Pao-tsan proposes that *P'ei*, written 沛 in the modern script, was the city located in the northern part of present Kiangsu province. Both his decipherments and his identification for *P'ei* have been acclaimed by Lo Po-chao, a noted contemporary numismatist,³ and there are good reasons for his enthusiasm. Epigraphically, the decipherment of the first character as *p'ei* is plausible, and that of the second as *ch'ien* should be satisfactory. Furthermore, the provenance of the coin is restricted to various localities in northern Kiangsu,⁴ and this tends to confirm that it was cast by the old city of *P'ei*.

Two readings have been suggested for the second part or the last three characters of the whole legend, *tang shih chin* and *tang shih huo*. The second reading is untenable, because the last character while showing no resemblance to the character for *huo*, looks structurally exactly like the basic component part of the character *chin* 鈔, the monetary unit of the spade coinage, and as that it must be regarded. The phrase *tang shih chin* implies that the coin with this specification must have been intended for use as equivalent to ten *chin* units. This reminds us of the Special Old Spade of Liang of high denomination which is specified in its legend to be equivalent to five *chin*.

Combining the two parts of the whole legend we thus arrive at the

² Ch'in Pao-tsan, *op. cit.*, III, part 1, *han* 1b—5b; also *Ku ch'ien ta-tz'ü-tien*, 24a—25a.

³ Lo Po-chao, "Ch'in Ch'u chih-chi chi Han ch'u huo-pi kai-lun," *Ch'üan-pi*, No. 2 (1940), 2.

⁴ Reported by Wêng Shu-p'ei and Ch'in Pao-tsan who are quoted by Lo Po-chao, *op. cit.*, 3—4.

following decipherment: *P'ei ch'ien tang shih chin* 𠄎𠄎當十斤 meaning, "Spade of P'ei, worth [lit. "to stand for"] ten *chin*."

Like the phrase *tang shih chin*, the inscription on the reverse of the spade "Ten *huo*" must be also taken to mean that the coin with this inscription was to be used as equivalent to so many *huo* units. If we read the coin's inscriptions as a whole, we will have such a long legend: *P'ei ch'ien tang shih chin, shih huo* or, "Spade of P'ei, worth ten *chin* or ten *huo*."

As is clearly implied in the legend, the spade of this type was cast to be used as an inter-regional currency, good in the region where the *huo* was the monetary unit as well as in the region where the *chin* was the monetary unit. Comparable to this type of spade we have only the Special Old Spades of Liang, which were coins to be used in both *lieh* and the *chin* areas.

Was this type of spade also of Chou origin, as were the Special Old Spades of Liang? Lo Po-chao and Chêng Chia-hsiang, whom he quotes, doubt that. They regard it as a type of coin cast in the years between the fall of Ch'in dynasty (207 B. C.) and the establishment of the Han dynasty (202 B. C.). The reasons for their opinion are: first, that "Among the ancient spade coins none has been specified with the denomination of 'Ten *huo*' (Chêng Chia-hsiang); and, secondly, that they were found not in the "north" as the spades of the Chou period were, but were "mostly in Kiangsu and Chekiang" (Lo Po-chao).⁵ Although these reasons are not sufficient, or even relevant, for determining the date of this type of spade, the possibility of the late origin of the coin cannot be denied. The evidence, as we see it, is as follows:

1. The weight of the *chin* monetary unit as expressed in this type of spades is very small. Six specimens from the collection of the American Numismatic Society have been weighed and the results show: 36.96, 36.10, 29.56, 33.13, 32.18, and 35.90 grams.

The average weight of these six specimens is 33.92 grams. Since a spade of this type was to be used as ten *chin*, then the weight of one

⁵ Lo Po-chao, *op. cit.*, 3.

chin is 3.39 grams. This is incomparably smaller than the *chin* unit of the Old Spade (average 13. grams), or the Late Spade (average 12 grams), or even that of the Round Coin, which as shown by the specimen of Yü is 8.22 grams. Since the weight of the monetary unit *chin* had been on steady decrease ever since its adoption, and since its weight in connection with the type of the spade at issue is even much smaller than that of the Round Coin which was the latest coin type of the Chou period, it should be natural to assume that this type of spade may be later than the Round Coin; in other words, it may be of post-Chou origin.

2. The supposition of its being of post-Chou origin is supported by the style in which the character for the monetary unit *huo* is written. During the Chou period, *huo* as the monetary unit of the knife coinage is written 化 or, in an abbreviated form, 匕; the fuller form shown on the right side of PLATE XVII, 1 is never found. It is the fuller form which directly becomes stylized into the form of the modern character, 貨 *huo*. (化, alone, is now pronounced *hua*).

In view of these facts, Chêng Chia-hsiang's and Lo Pao-chao's suggestion that this type of spade was cast after the fall of Ch'in and before the establishment of Han is plausible. Since the rebels were bent on destroying everything that had formed part of the institutions of the "tyrannical Ch'in," some of their leaders, possibly descendants of old noble families, might have attempted to restore the monetary system to the forms current under Chou.

Who cast them? Lo Pao-chao believes that it was the Western Ch'u (206 — 202 B. C.), in whose territory the suggested mint city of P'ei was located.⁶

If all these suggestions are correct, we see that along with the overthrow of the totalitarian Ch'in regime and the restoration of the political conditions of Chou, there was revived one of the economic institutions of that period, the spade monetary system, in certain parts of China at the end of the third century B. C.

⁶ *Op. cit.*, 2.

* * *

Now we must say a few words about the small type of the post-Chou spades. The legend of this type of spade, which is placed on both sides of the coin is much simpler and involves no great difficulties. It reads *Ssŭ ch'ien tang shih chin*. 四 銖 當 十 斤. The last four characters are identical with those of the large type discussed above. Most numismatists regard the first character of the legend, *ssŭ*, as the numeral for "four," but Lo Po-chao contends that it is the name of the mint city, which was the capital of the Ssŭ-shui Province of the Ch'in dynasty.⁷ According to the former opinion, the legend means "Four of this spade are equivalent to ten *chin*;" but according to Lo Po-chao, it means "Spade of Ssŭ, worth ten *chin*." Since this type of spade appears to have been contemporary with the large post-Chou spade discussed above and since two of them (PLATE XVII, 2 shows two spades attached together) weigh only 15.25 grams, or about half the weight of the large type, the reading of the character as the numeral for "four" sounds reasonable. Since, as a rule, the first character in the legends of all spades of the Chou period (after which this type of coin was modelled) is the name of the mint city, Lo Po-chao's suggestion appears also plausible. This is the kind of problem which can be solved definitively only after more material and information are available.

Finally, it may be interesting to note that, judging from the shape of the coins and the design of their inscriptions, this type of spade appears to have been the direct model after which Wang Mang (9–23 A. D.) cast his spade coins in his attempt to restore the monetary system of Chou as he understood it. For his spades resemble the spade under discussion in every aspect and do not have as much in common with the spades of the Chou period. In other words, the restoration of the monetary system of Chou by Wang Mang was a copy of the first attempted restoration of the economic institution at the end of the third century B. C.

⁷ *Op. cit.*, 4–5.

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of the American Numismatic Society)

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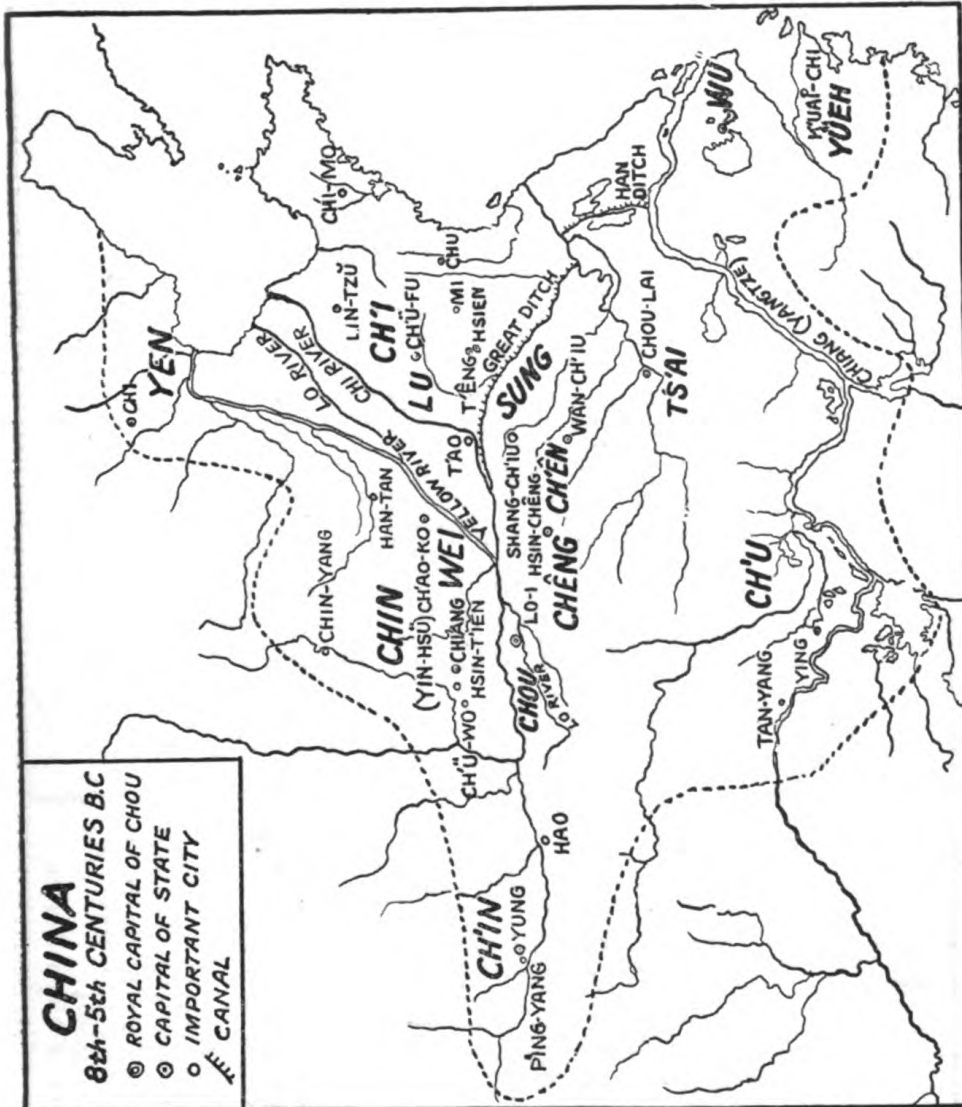
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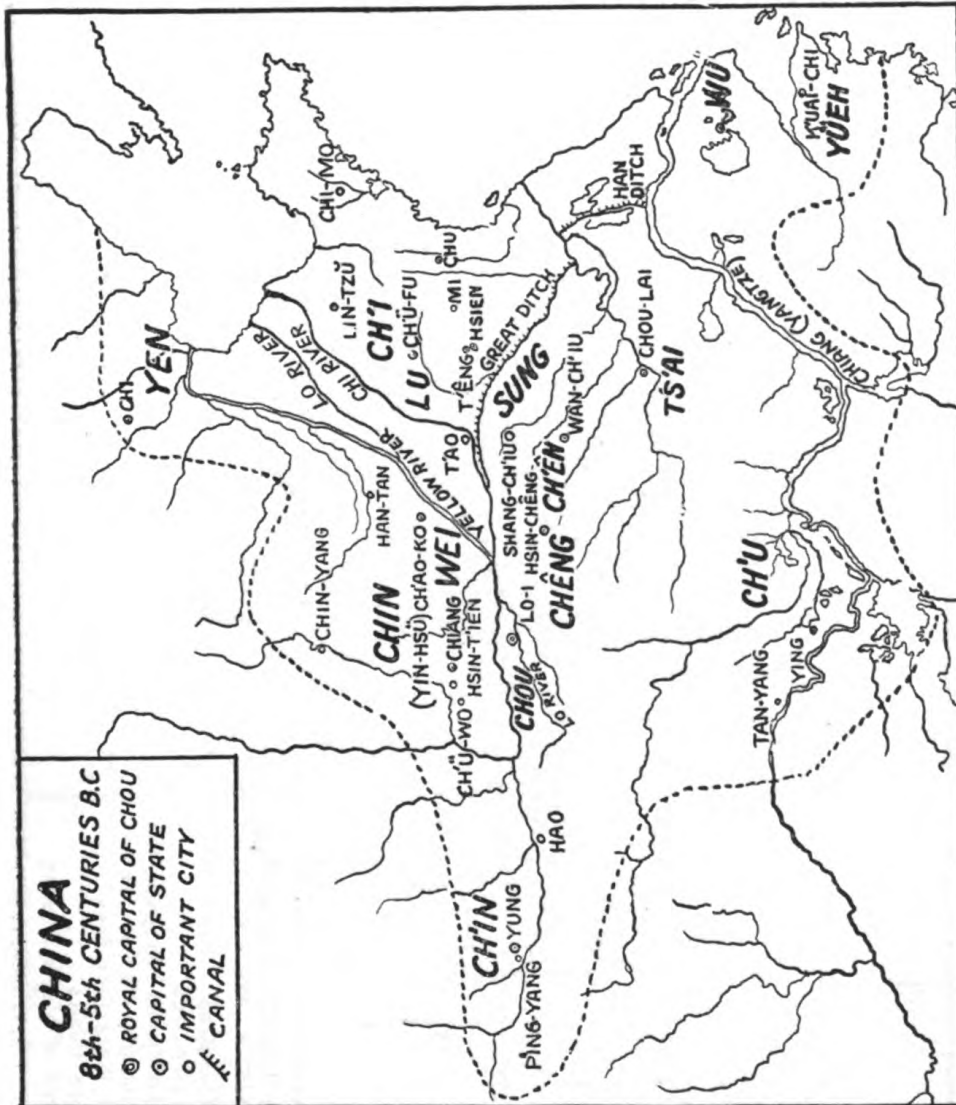
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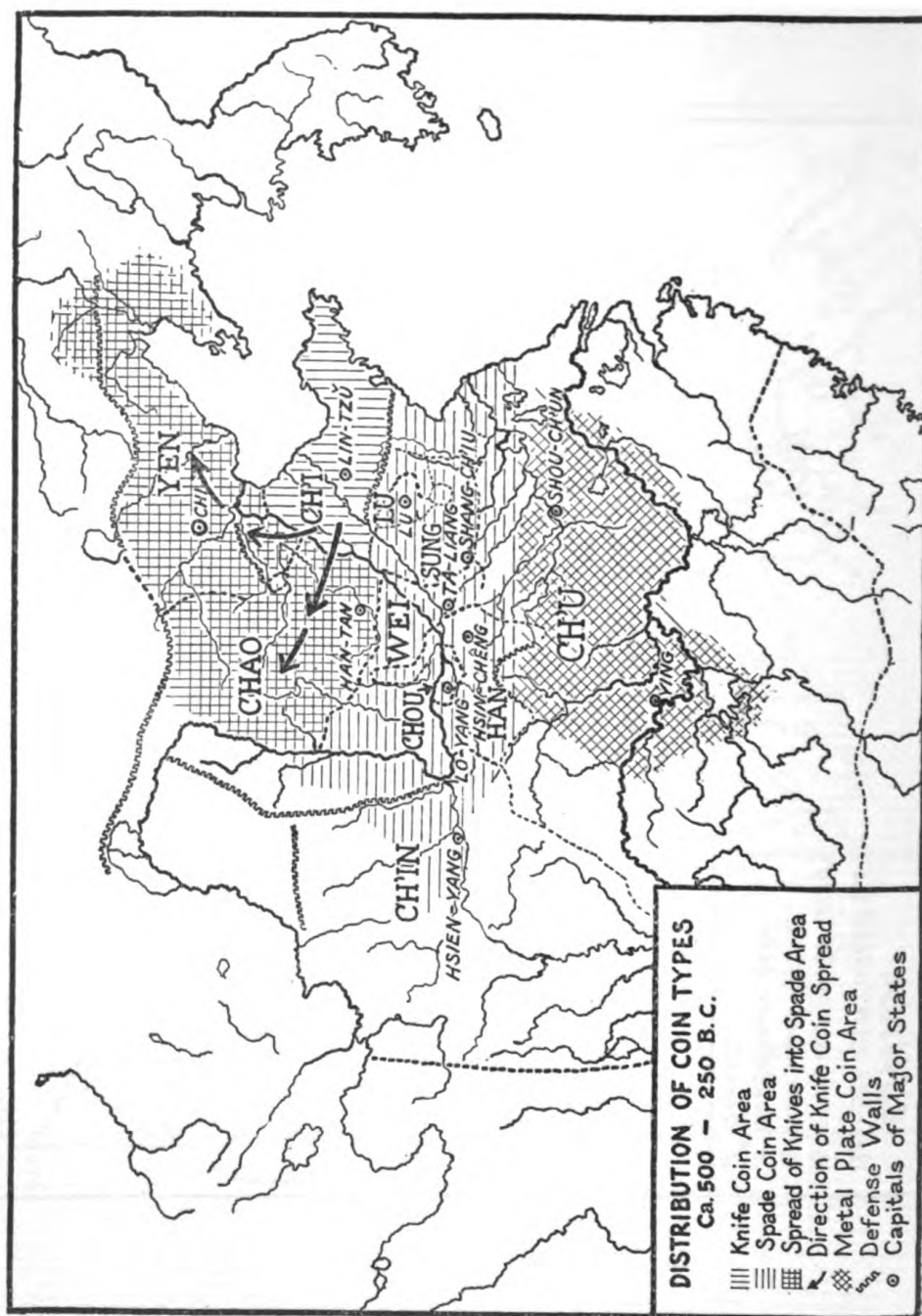
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	6 Round coin of Ch'in. Legend: <i>Chung i liang shih-erh chu</i> . From <i>Ku ch'ien ta-tz' ŭ-tien</i> , V, 283 b.	197
	7 Round coin probably of Ch'in origin. Legend: <i>Pan yüan</i> . From <i>Ku ch'ien ta-tz' ŭ-tien</i> , V, 227 a.	196, 197



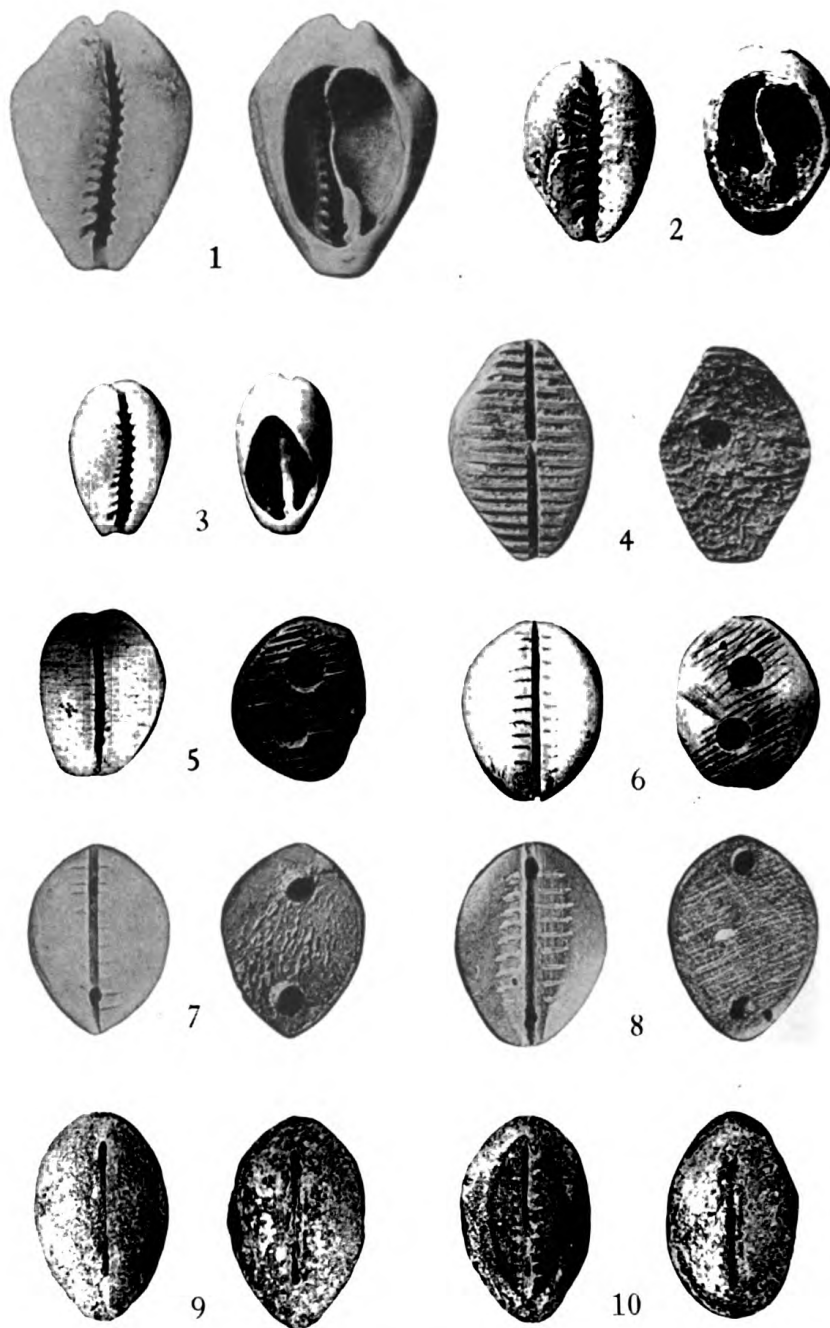








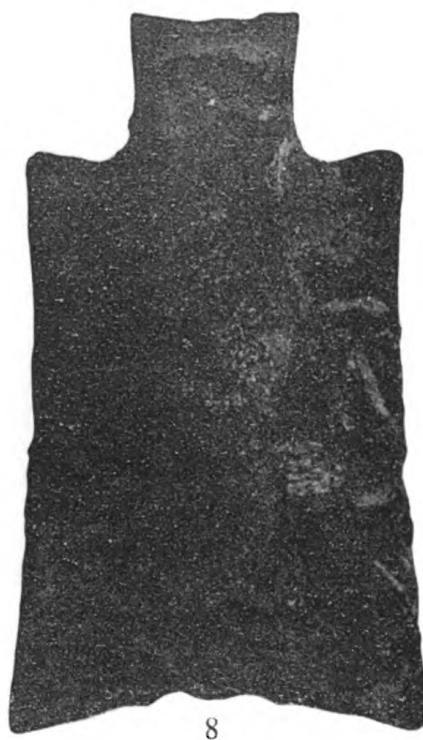
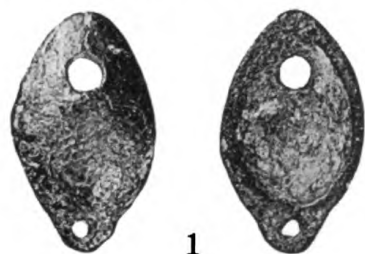
PLATES



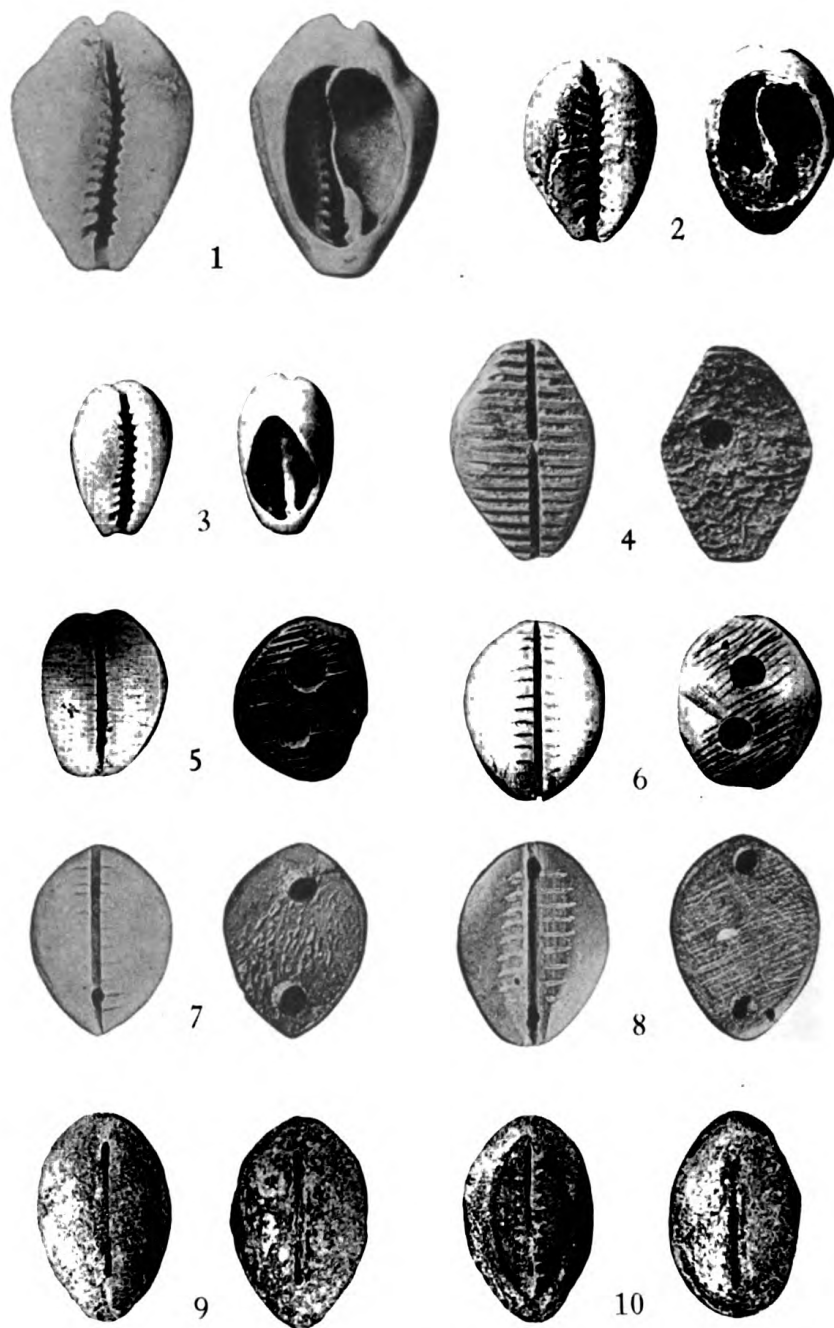
COWRIES (1-3) AND COWRIE IMITATIONS (4-10)

EARLY CHINESE COINAGE

PLATE II



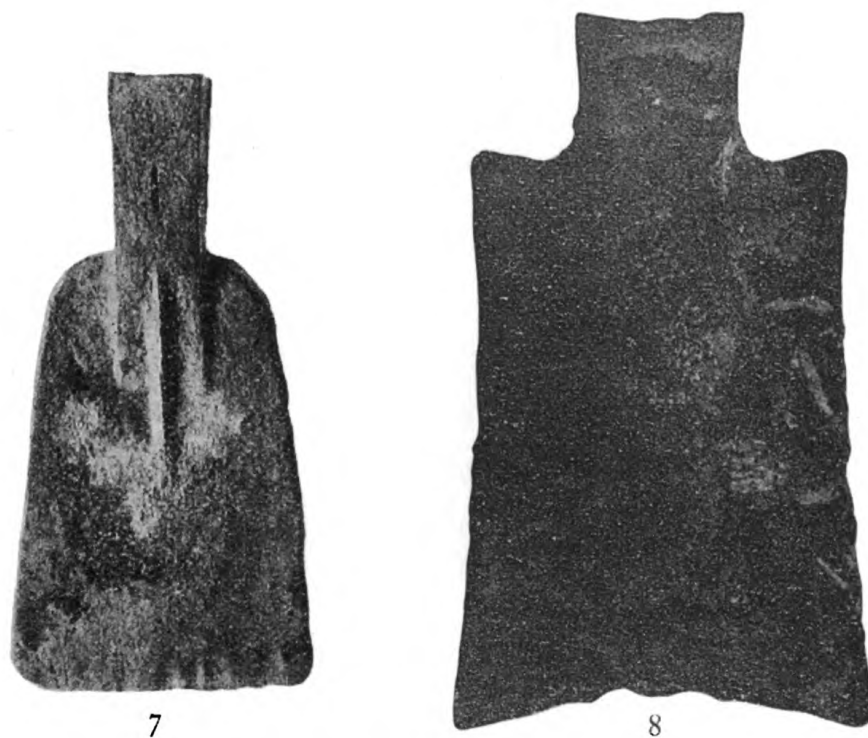
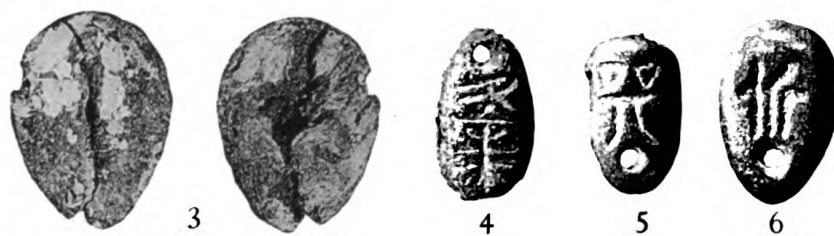
COWRIE IMITATIONS (1-3) "ANT NOSE MONEY" (4-6)
 BRONZE WEEDING SPADES:
 "TOOL KURODA" (7) "TOOL NISHIMURA" (8)



COWRIES (1-3) AND COWRIE IMITATIONS (4-10)

EARLY CHINESE COINAGE

PLATE II



COWRIE IMITATIONS (1-3) "ANT NOSE MONEY" (4-6)
 BRONZE WEEDING SPADES:
 "TOOL KURODA" (7) "TOOL NISHIMURA" (8)



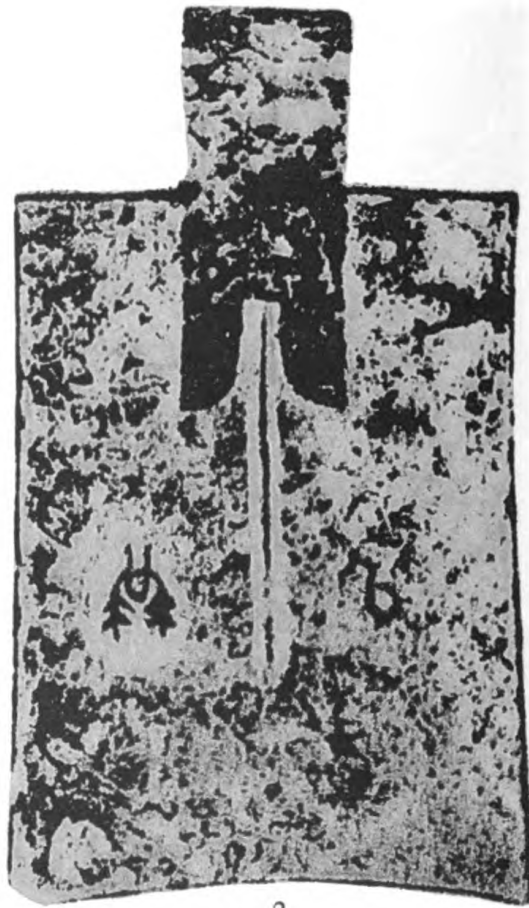
BRONZE WEEDING SPADE
"TOOL ANS"



PROTOTYPE SPADE COIN



1



2

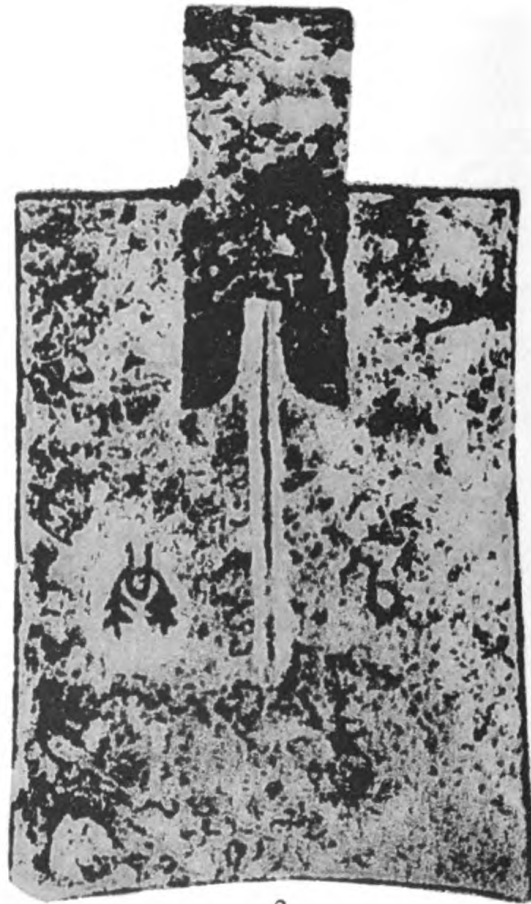
PROTOTYPE SPADES



HOLLOW-HANDLE SPADE I



1

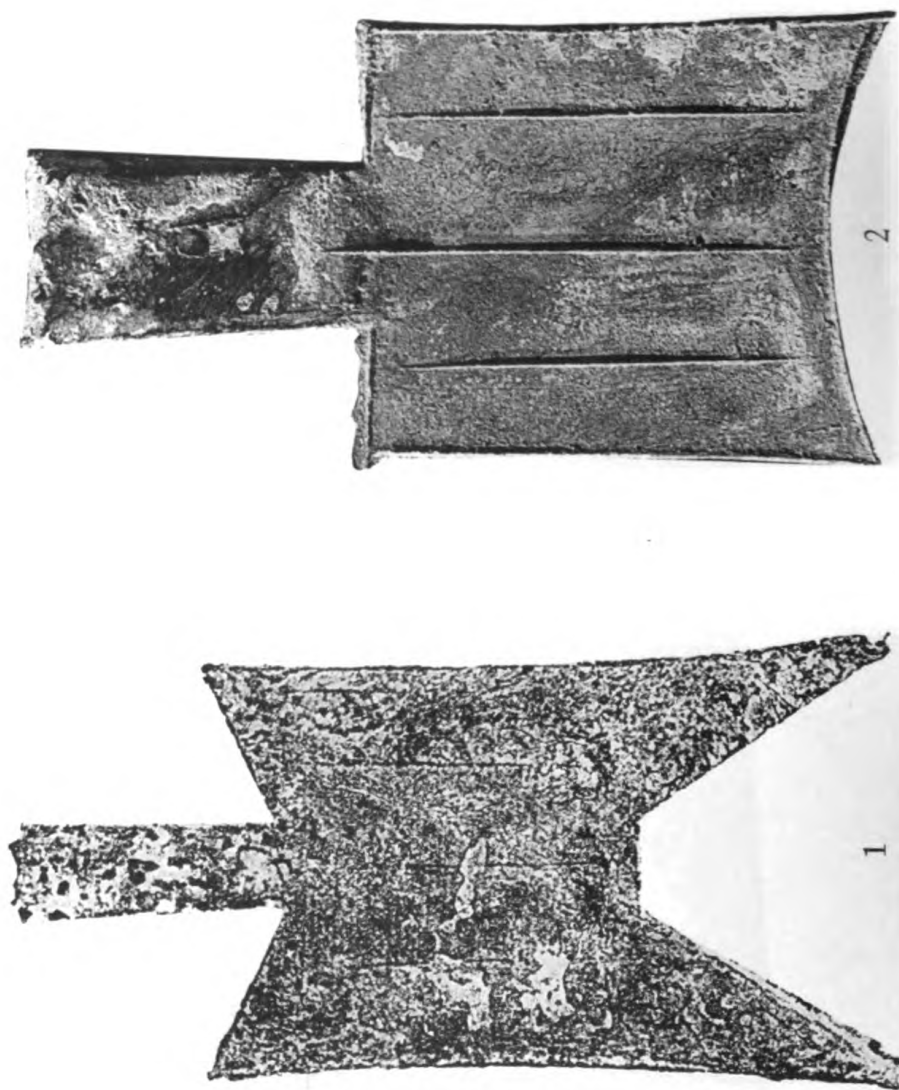


2

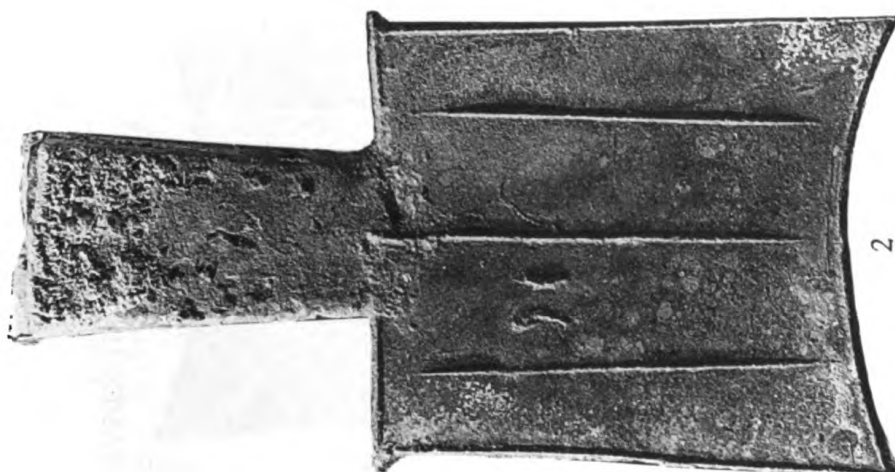
PROTOTYPE SPADES



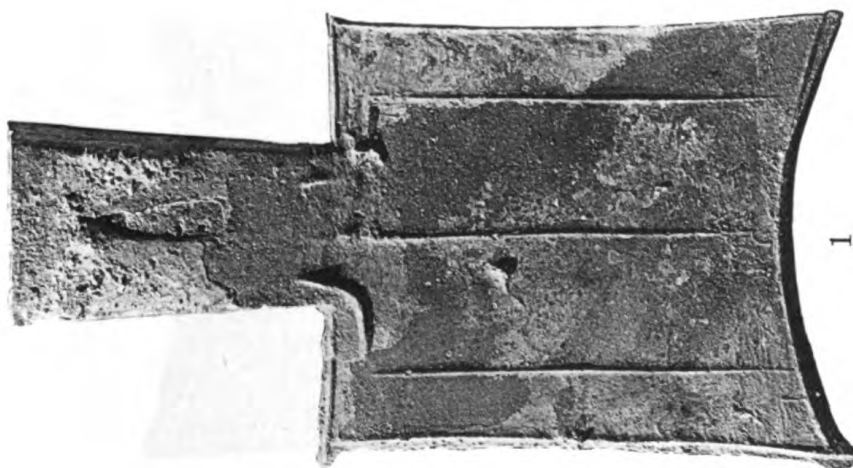
HOLLOW-HANDLE SPADE I



HOLLOW-HANDLE SPADE I (1) II (2)

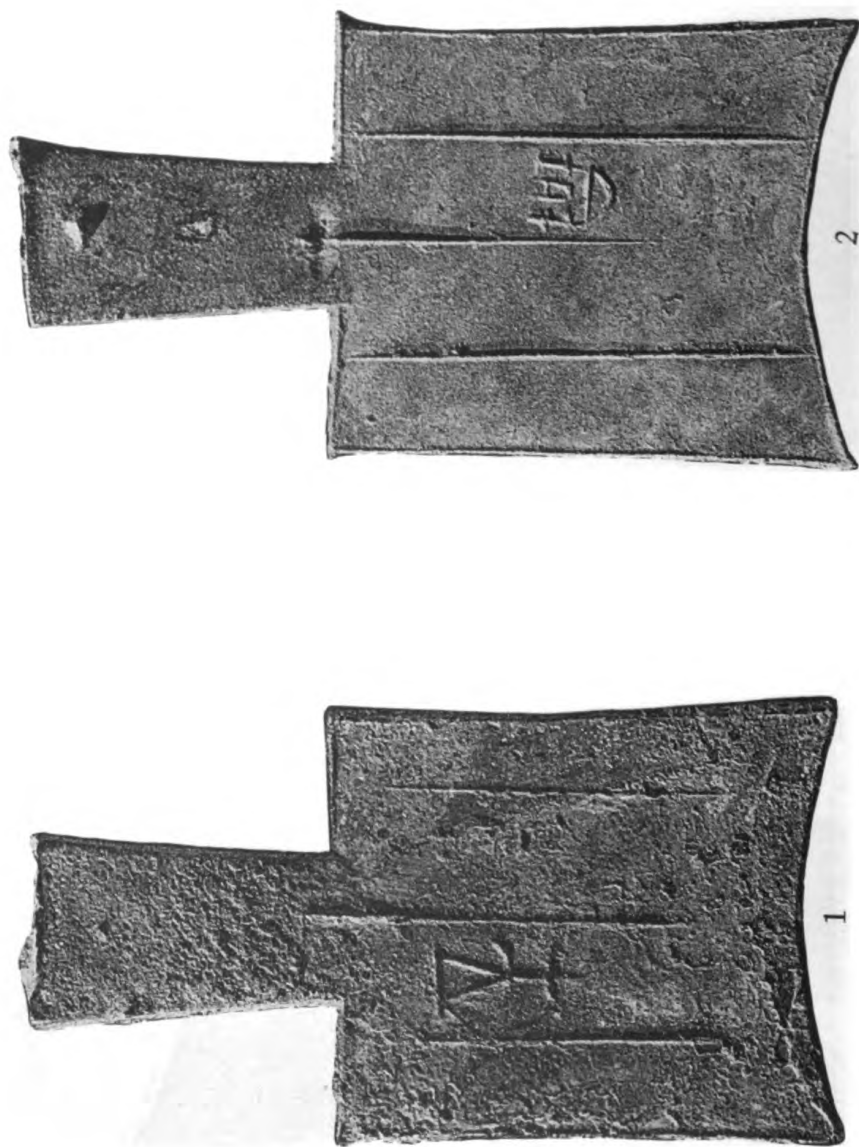


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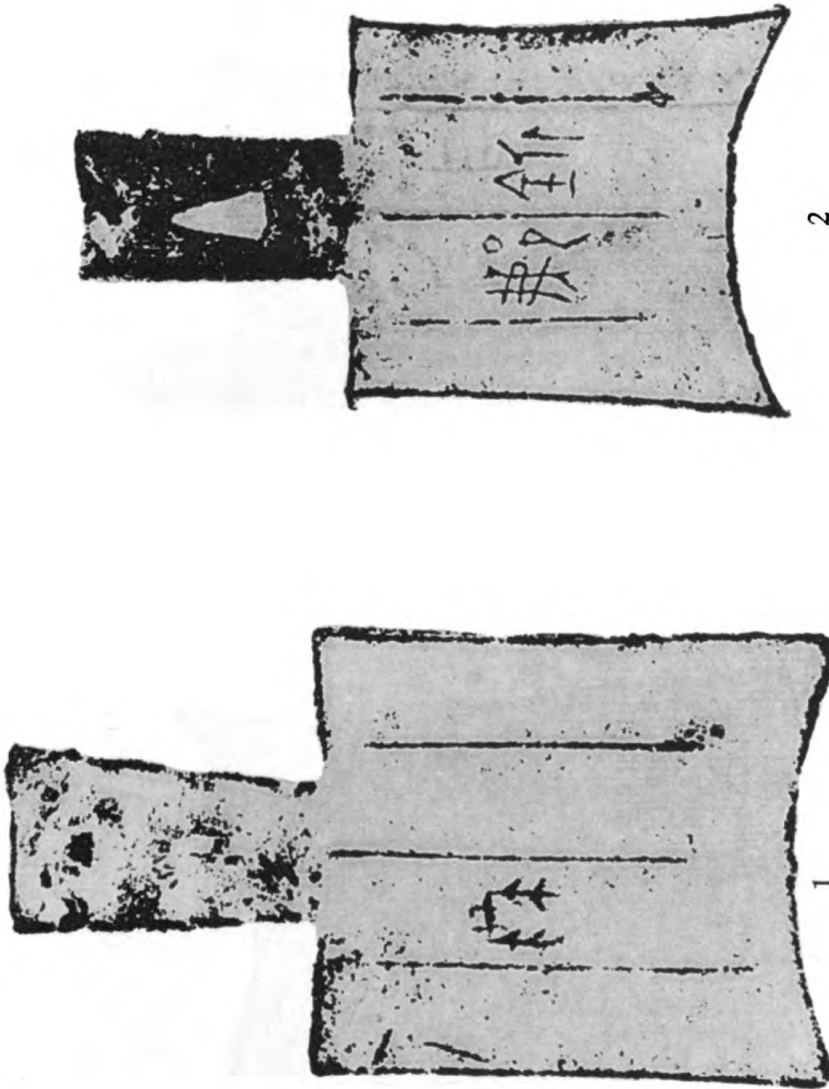


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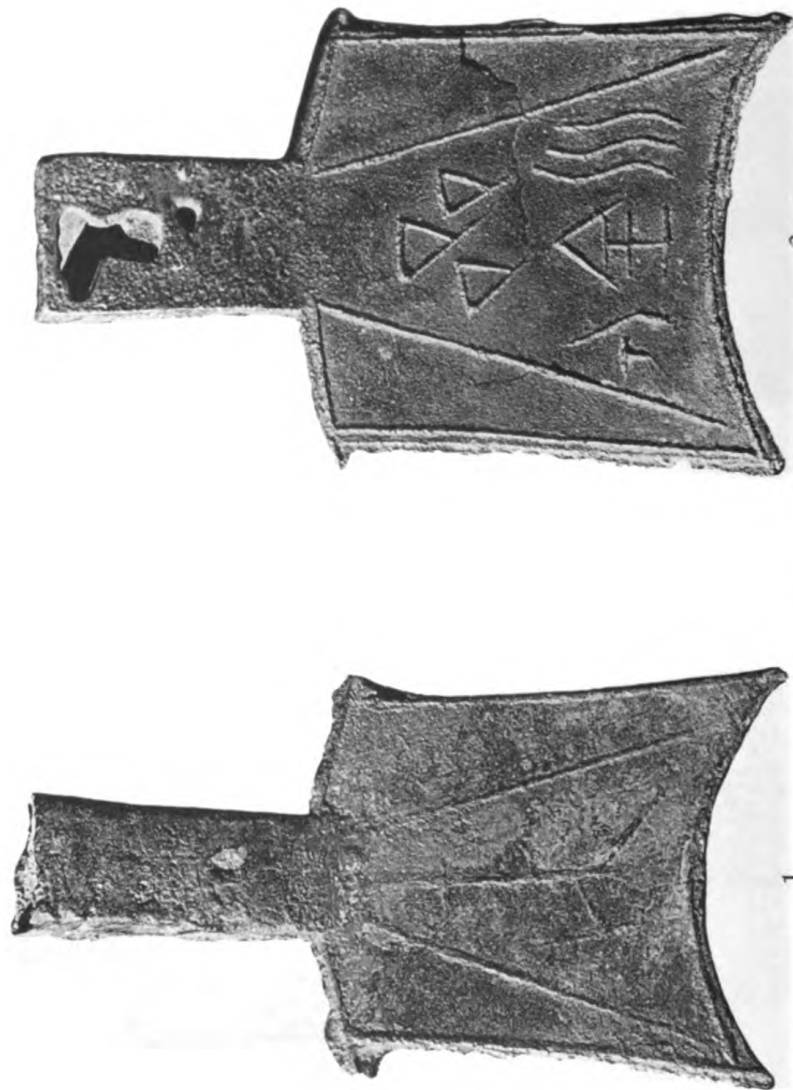
HOLLOW-HANDLE SPADES II



HOLLOW-HANDLE SPADES II



HOLLOW-HANDLE SPADES II



2

1

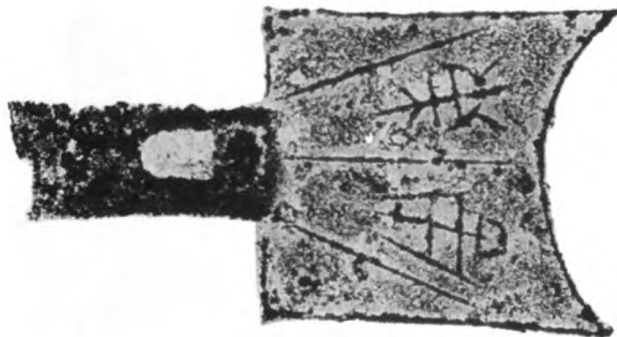
HOLLOW-HANDLE SPADES III



1



2

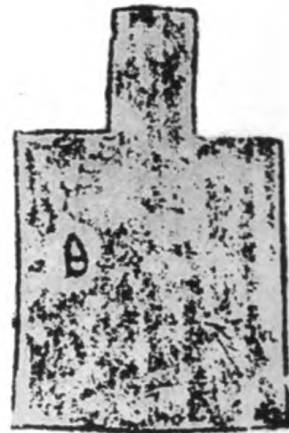


3

HOLLOW-HANDLE SPADES III



1



2



3



4



5

HOLLOW-HANDLE SPADES (1-2)
OLD SPADES OF CHIN-YANG (3-5)



OLD SPADES OF LIANG (1-3) AND AN-I (4-5)



OLD SPADES OF AN-I (1) FÊN OR PIN (2)
SPECIAL OLD SPADES OF LIANG (3-5)



1



2



=

3



SPECIAL OLD SPADE OF LIANG (1)
OLD SPADES (2-3)



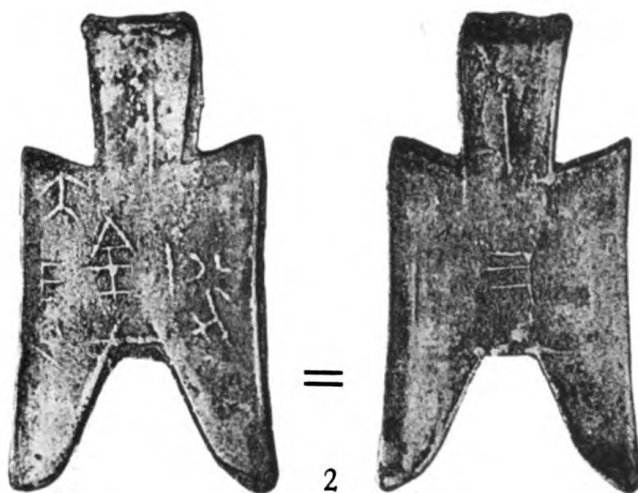
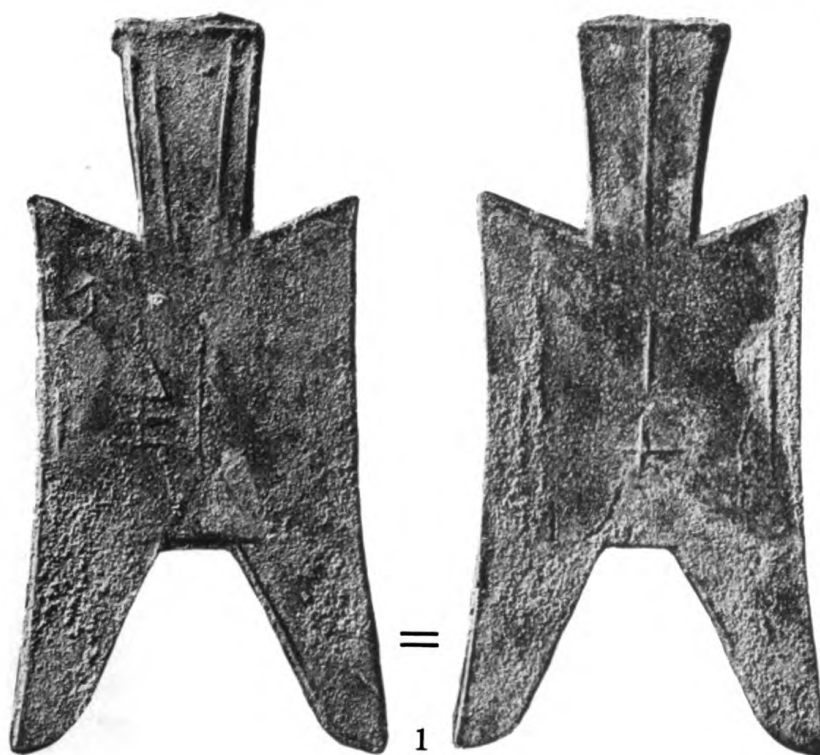
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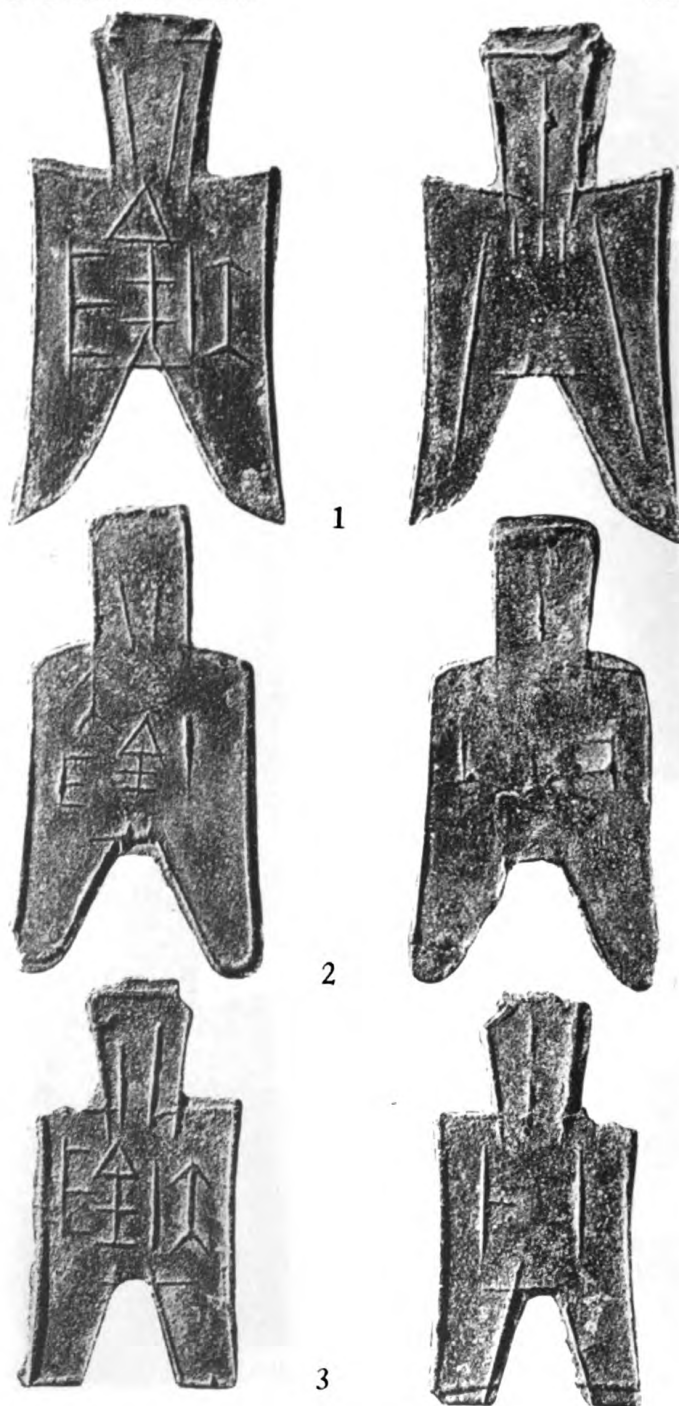
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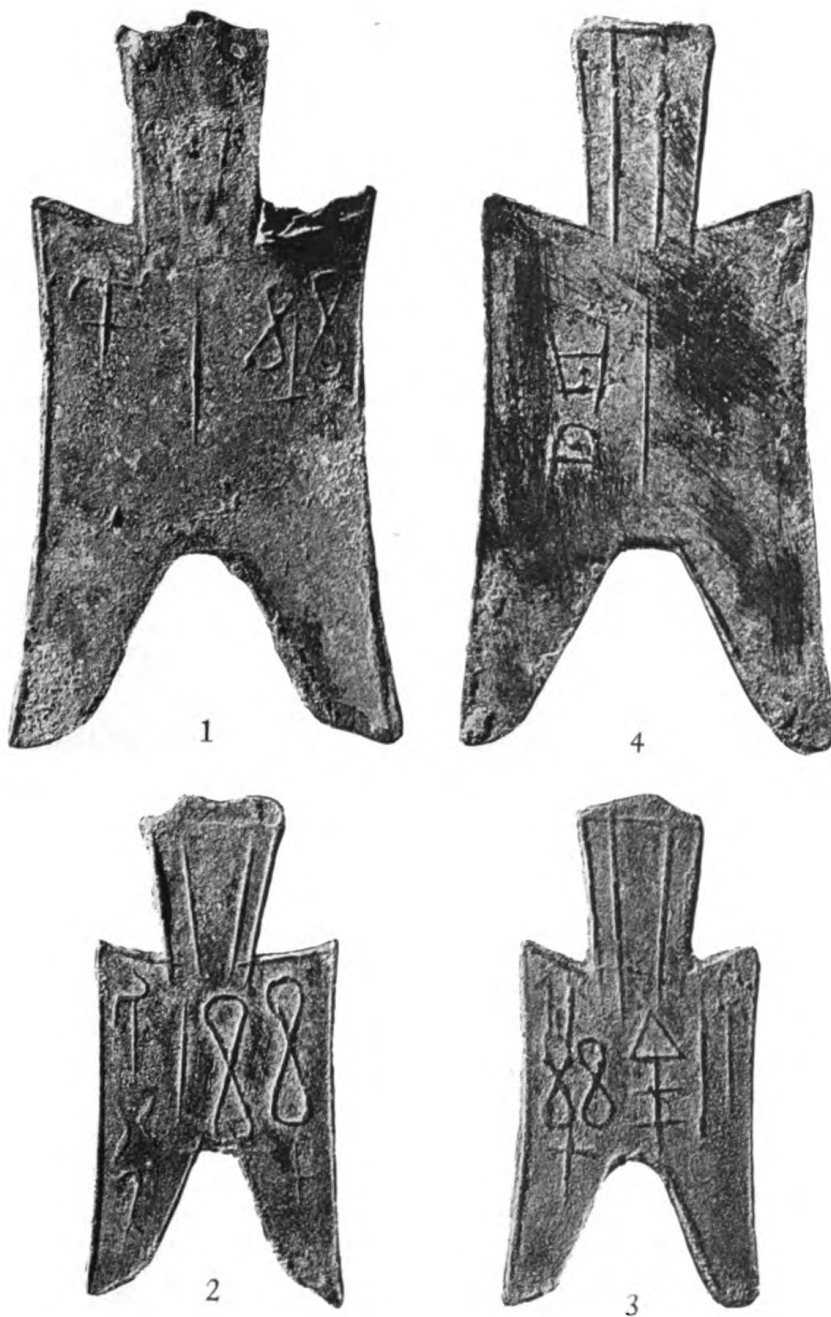
POST-CHOU SPADES



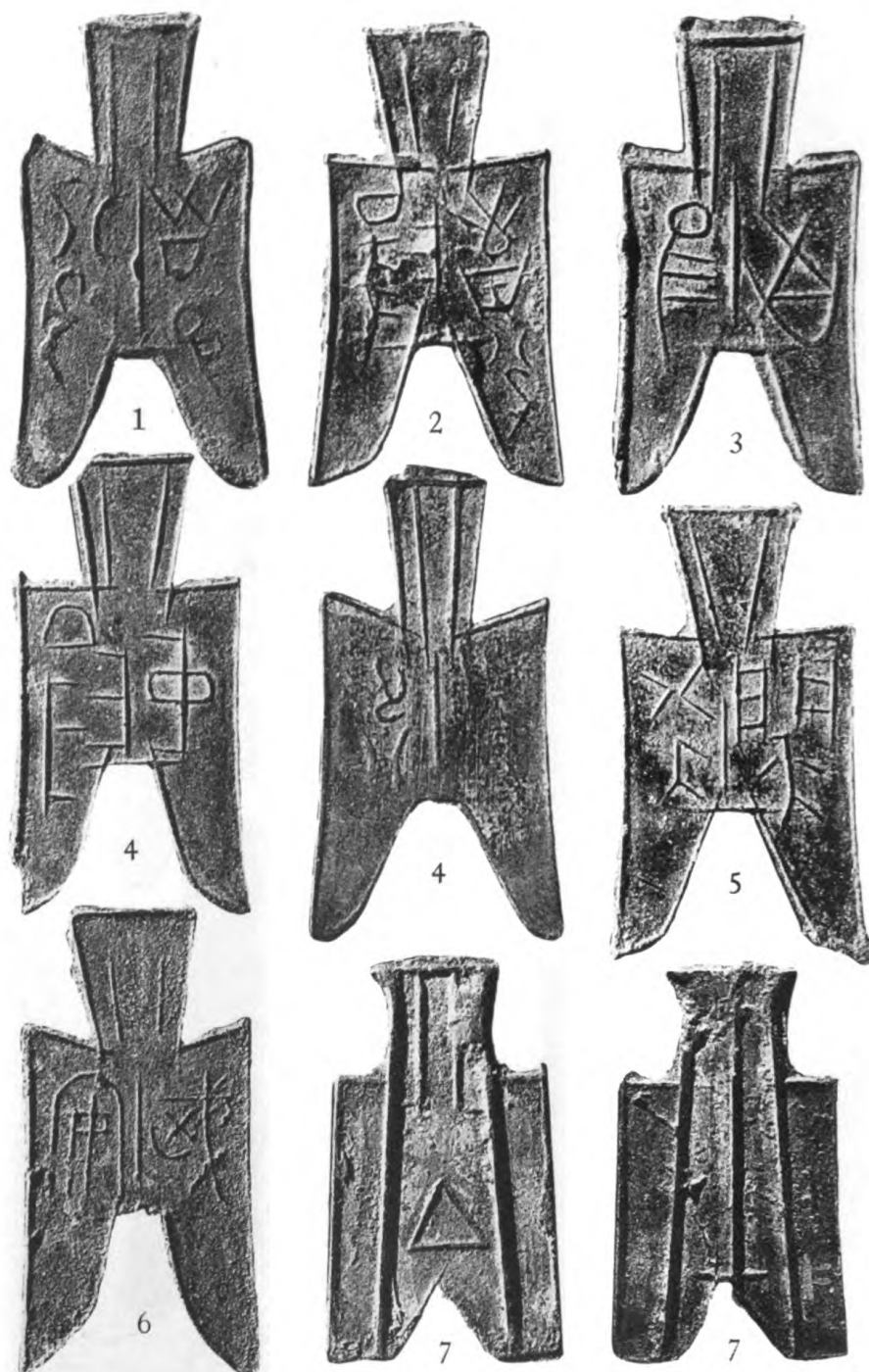
LATE SPADES I OF TA-YIN



LATE SPADES I OF TA-YIN



LATE SPADES I OF TZU-SHIH (1-3)
AND HAN-TAN (4)



LATE SPADES I (1-6) II (7)



1

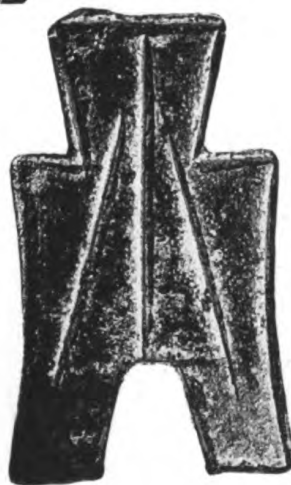


2

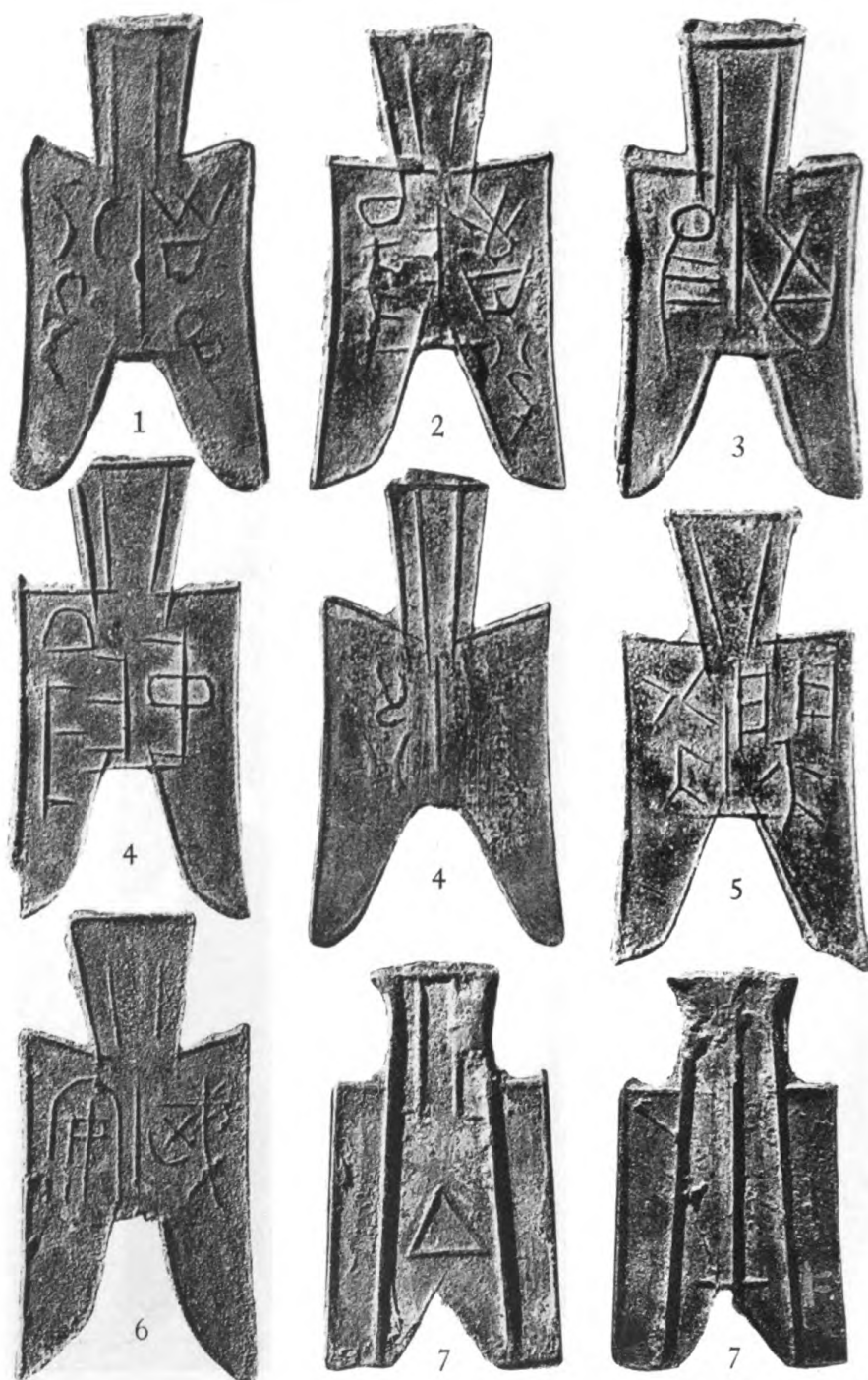


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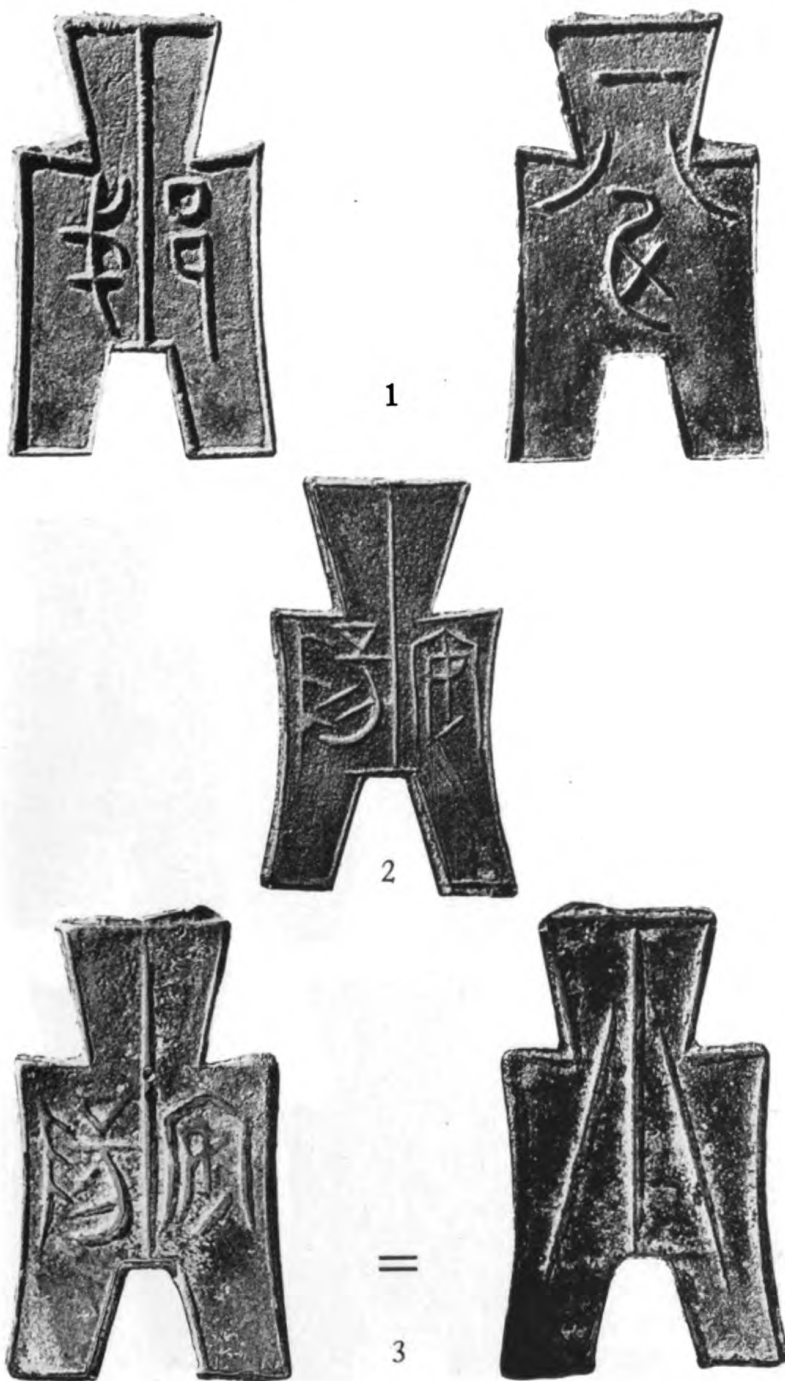
3



LATE SPADES II



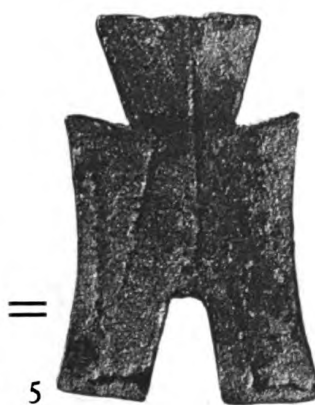
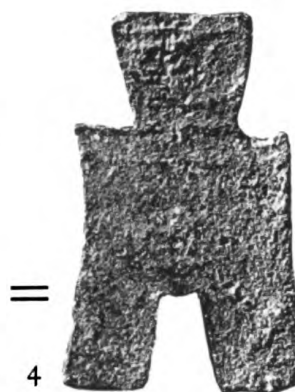
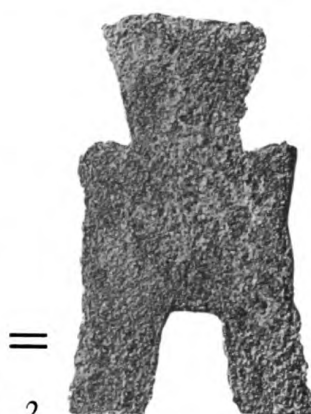
LATE SPADES I (1-6) II (7)



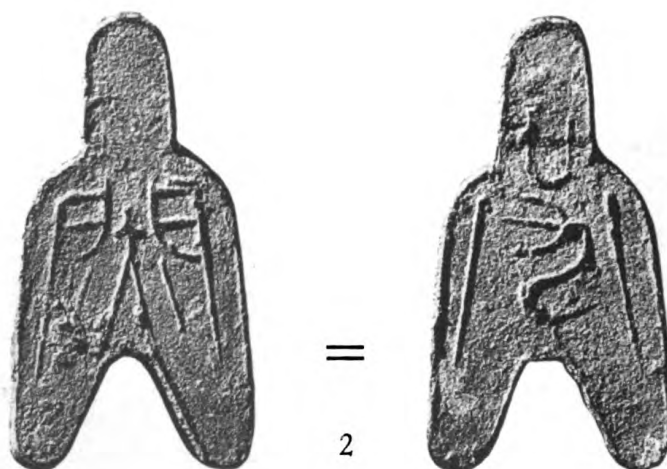
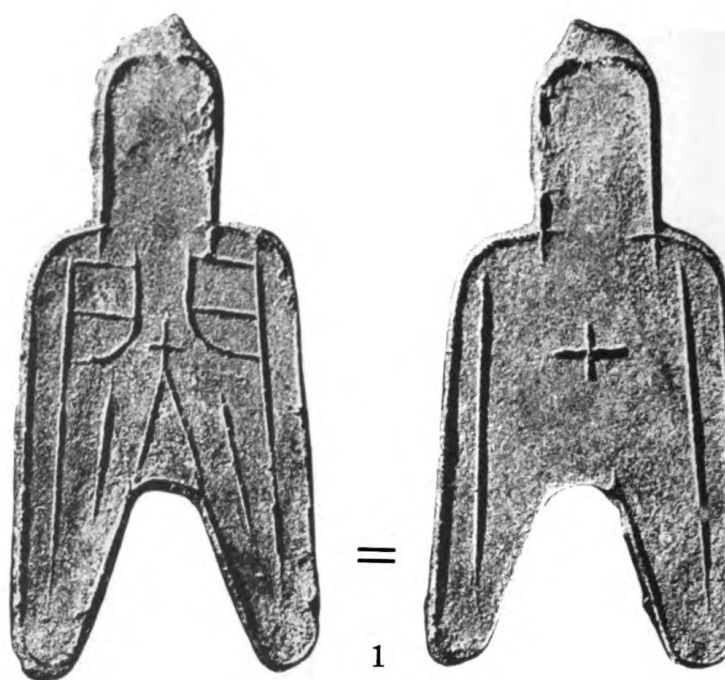
LATE SPADES II



LATE SPADES II



LATE SPADES II



LATE SPADES III



1



2



3



LATE SPADES III (1-2) IV (3)



1



2



LATE SPADES IV

EARLY CHINESE COINAGE

PLATE XXVIII



1

2

ANCIENT BRONZE KNIVES



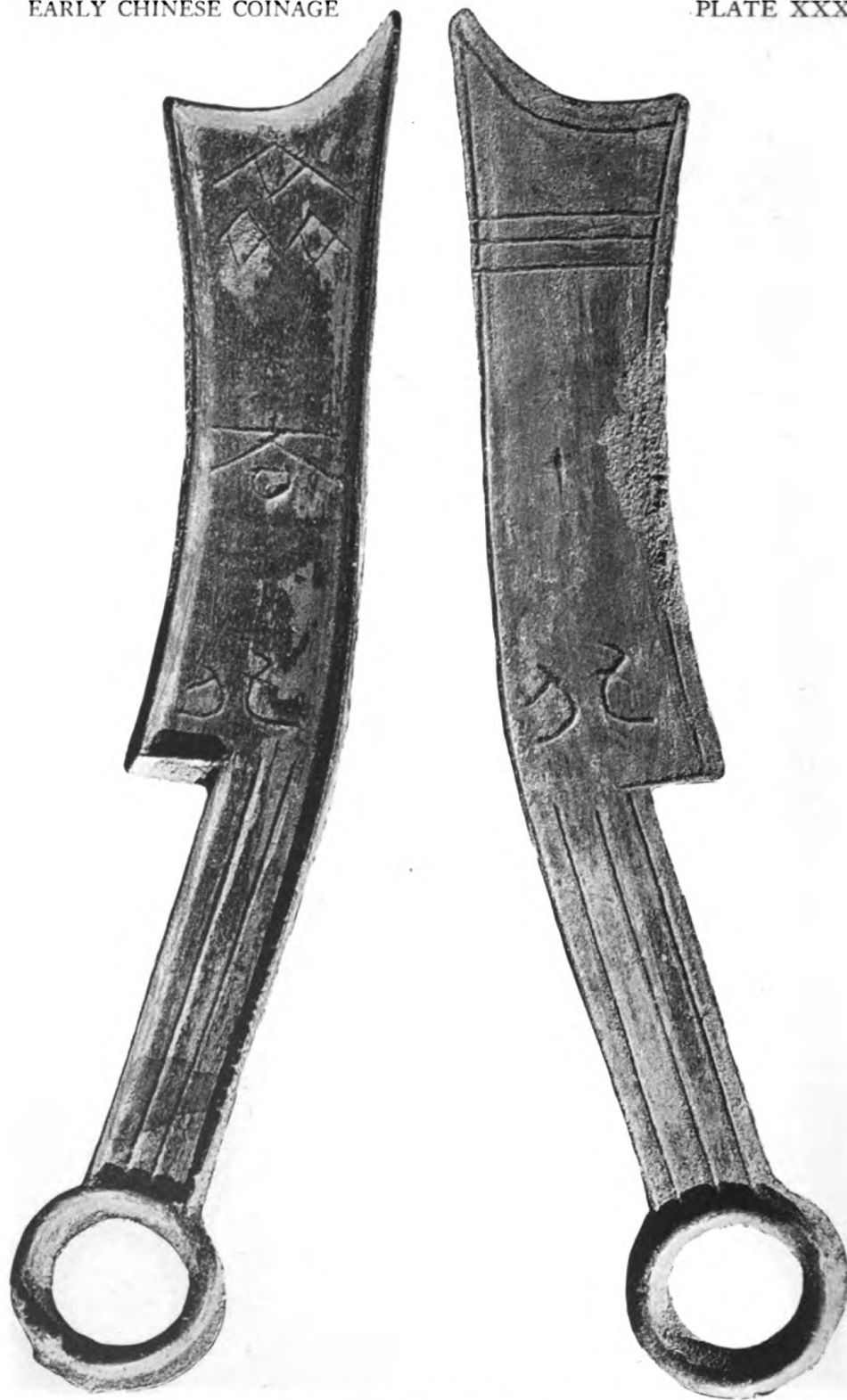
EARLY KNIFE OF CH'I



EARLY KNIFE OF CH'I

EARLY CHINESE COINAGE

PLATE XXXI



EARLY KNIFE OF CHI

EARLY CHINESE COINAGE

PLATE XXXII



EARLY KNIFE OF CH'I

EARLY CHINESE COINAGE

PLATE XXXIII



EARLY KNIFE OF CH'I



EARLY KNIFE OF CHI-MO

EARLY CHINESE COINAGE

PLATE XXXIII



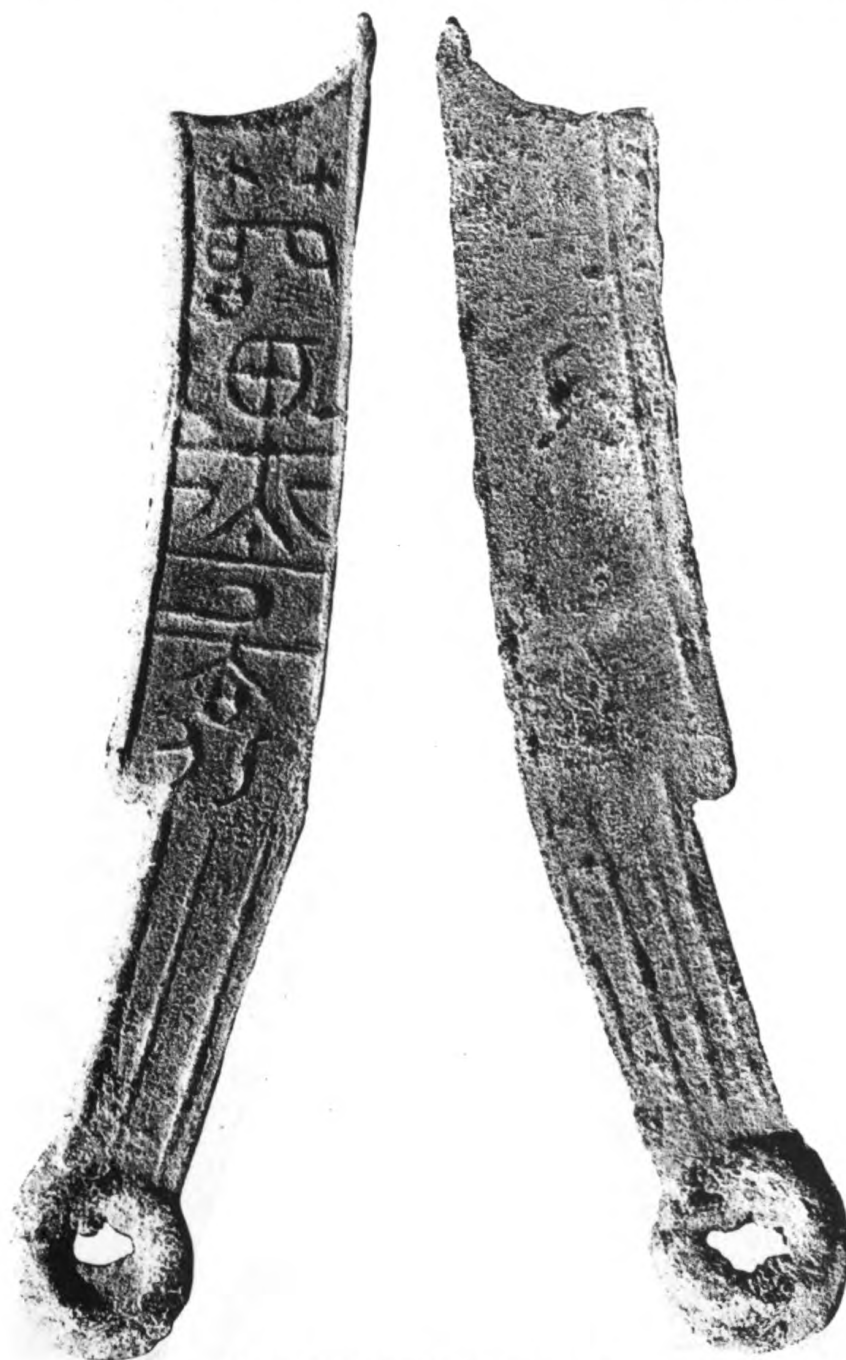
EARLY KNIFE OF CH'I



EARLY KNIFE OF CHI-MO



EARLY KNIFE OF CHI-MO



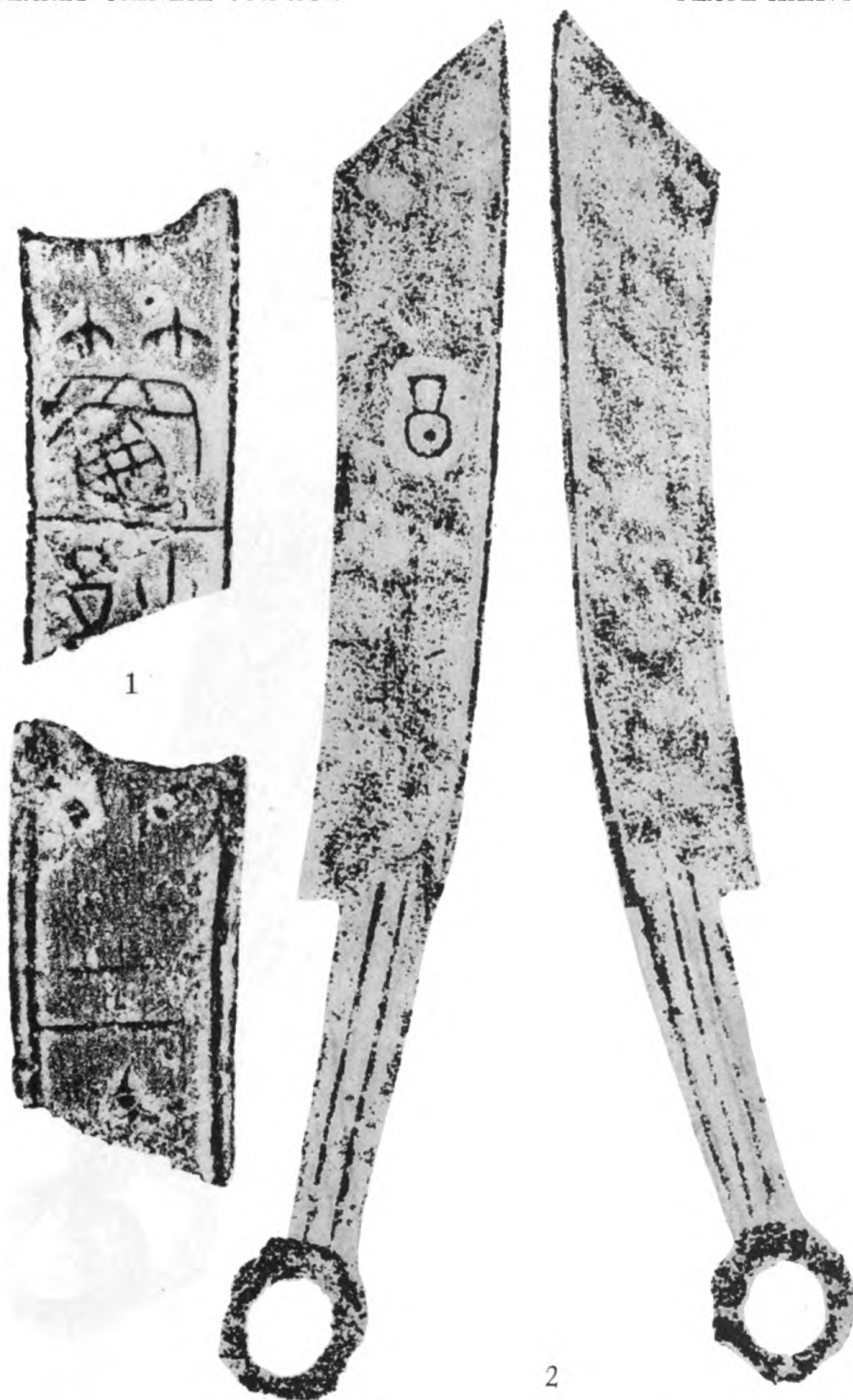
EARLY KNIFE OF CHI-MO

EARLY CHINESE COINAGE

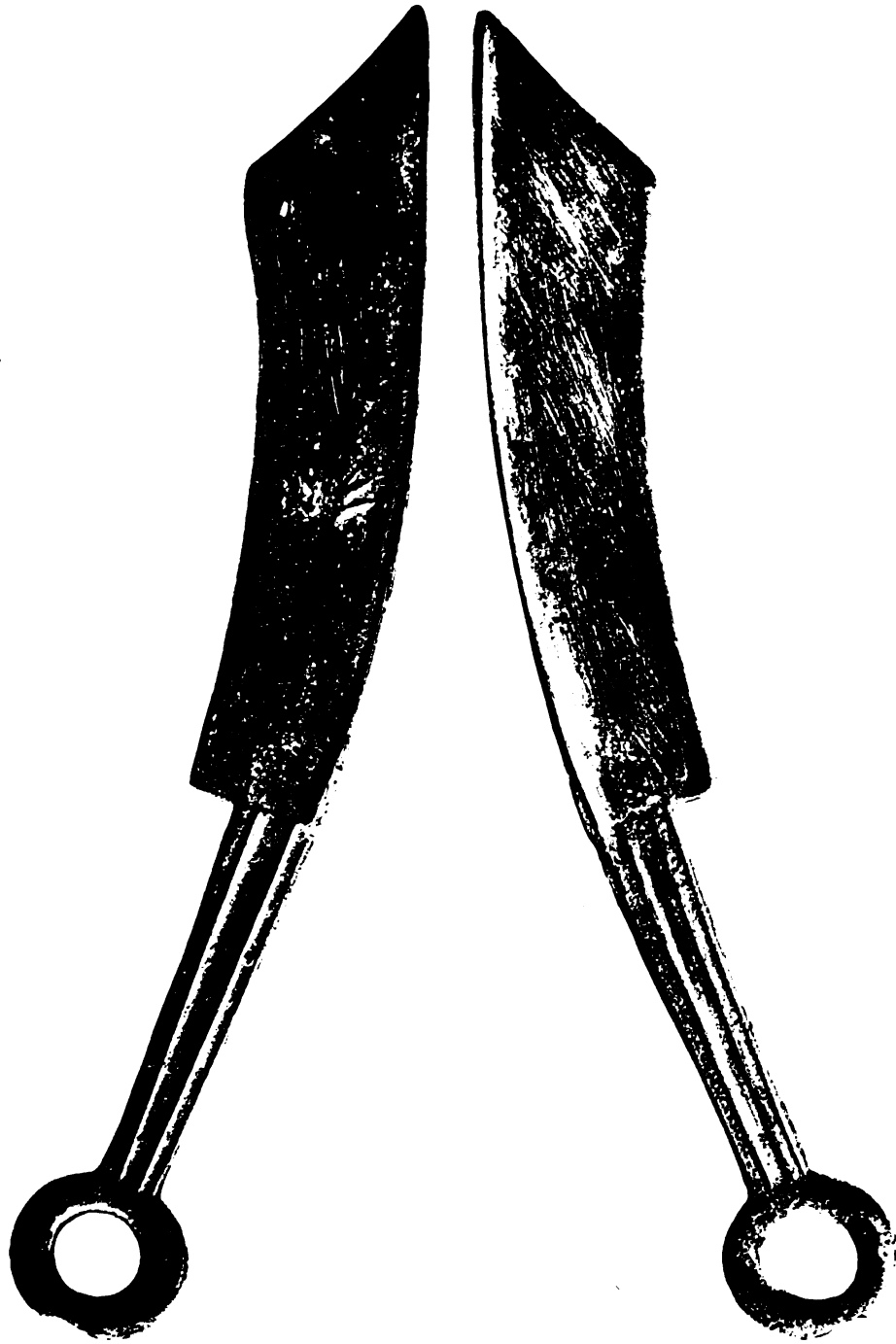
PLATE XXXVII



EARLY KNIFE OF AN-YANG



EARLY KNIFE OF T'AN (1) SHARP-POINTED KNIFE (2)



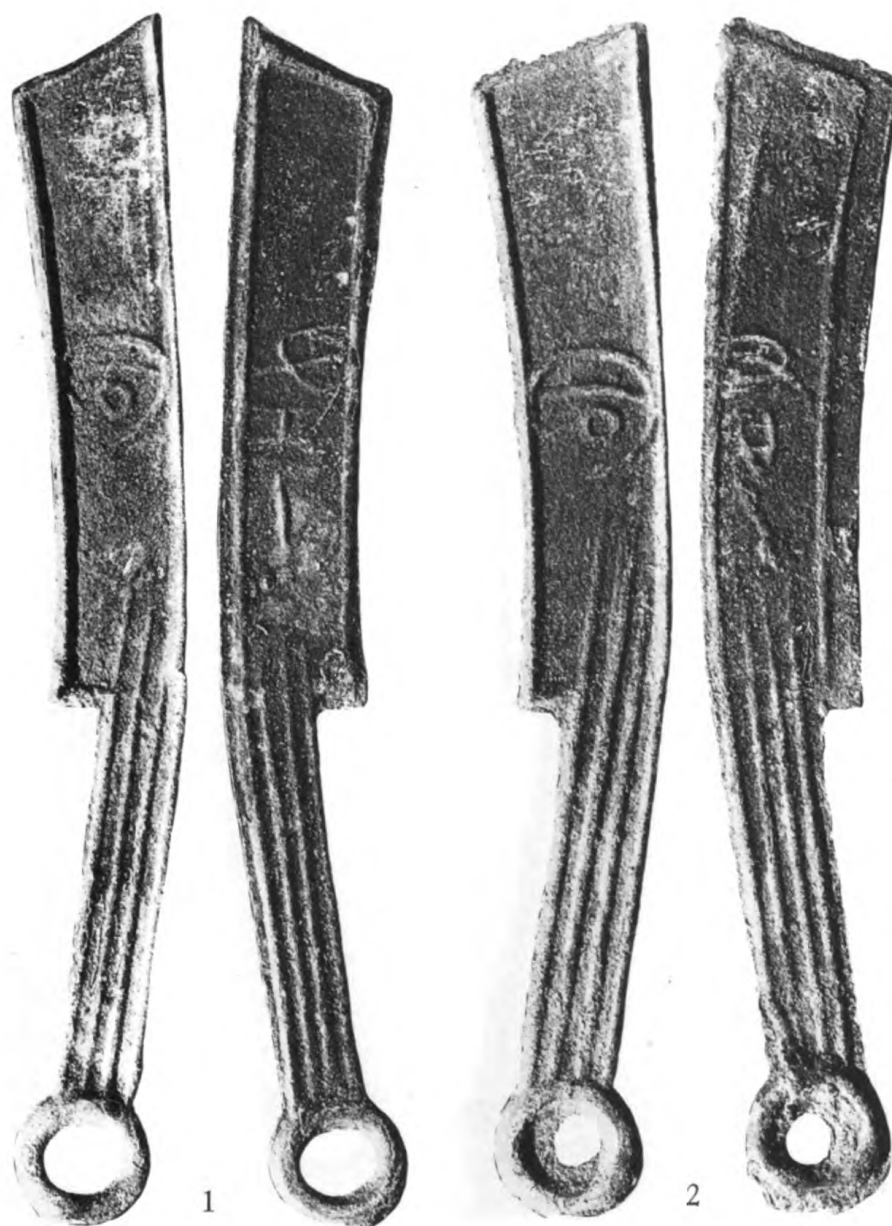
SHARP-POINTED KNIFE



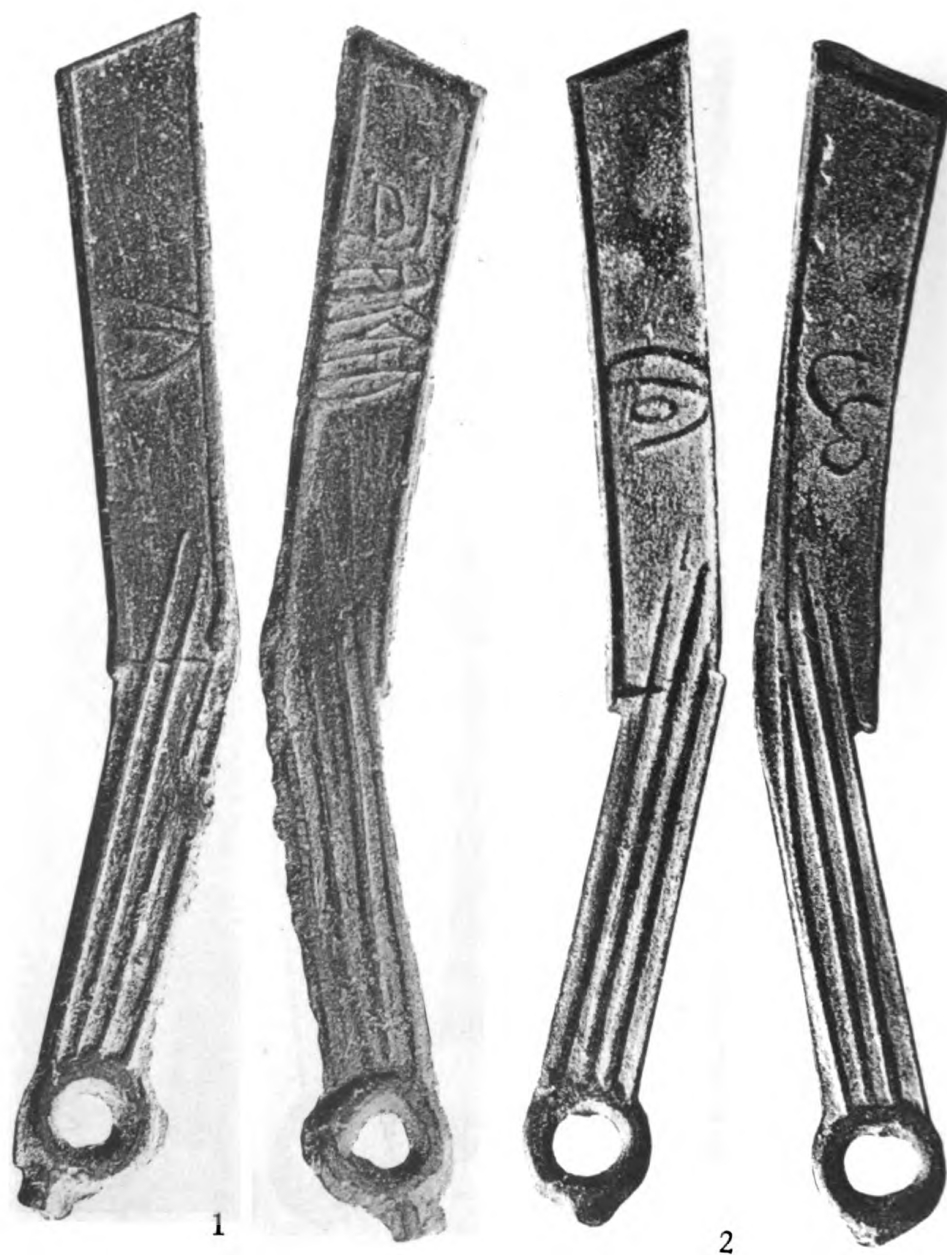
SHARP-POINTED KNIFE



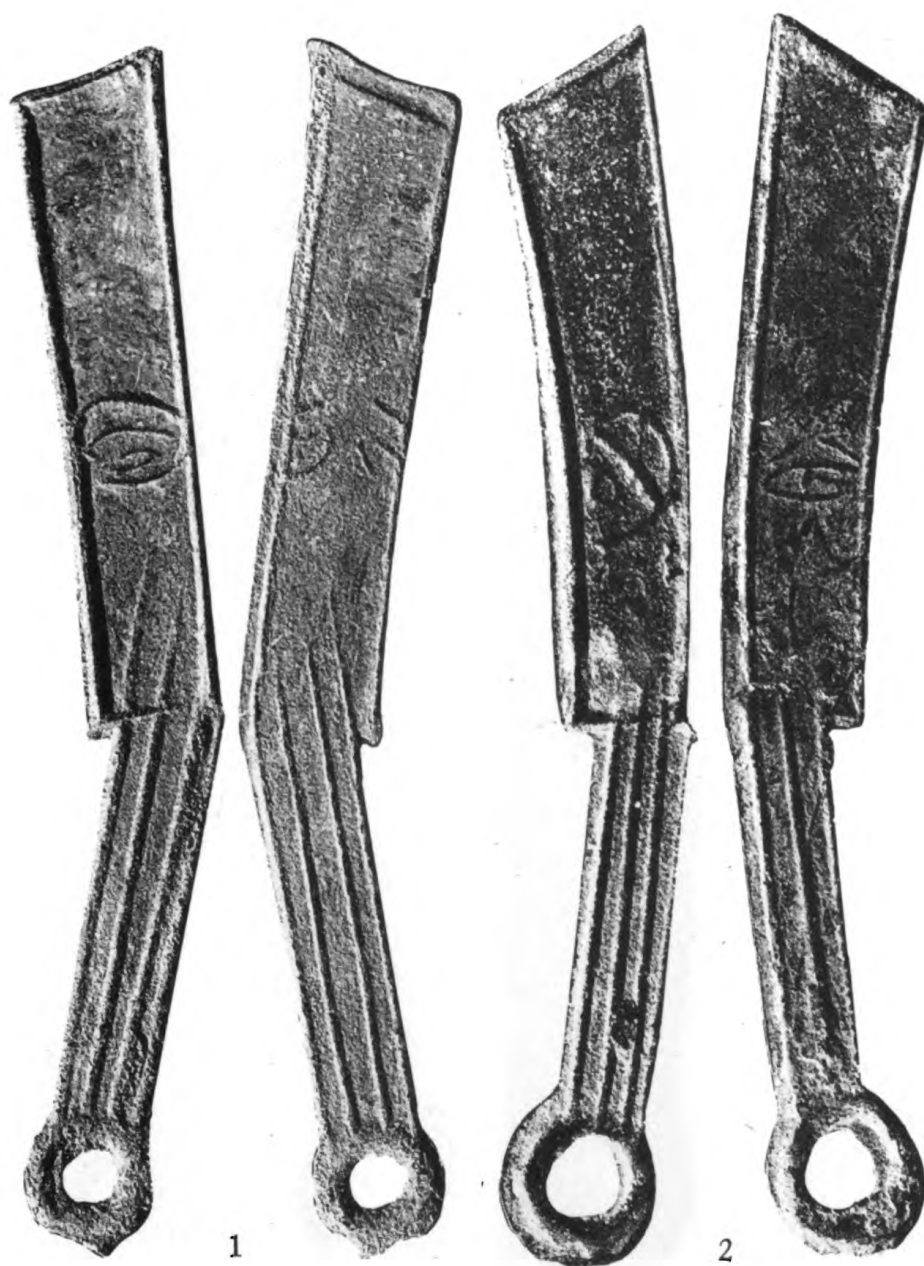
SHARP-POINTED KNIVES



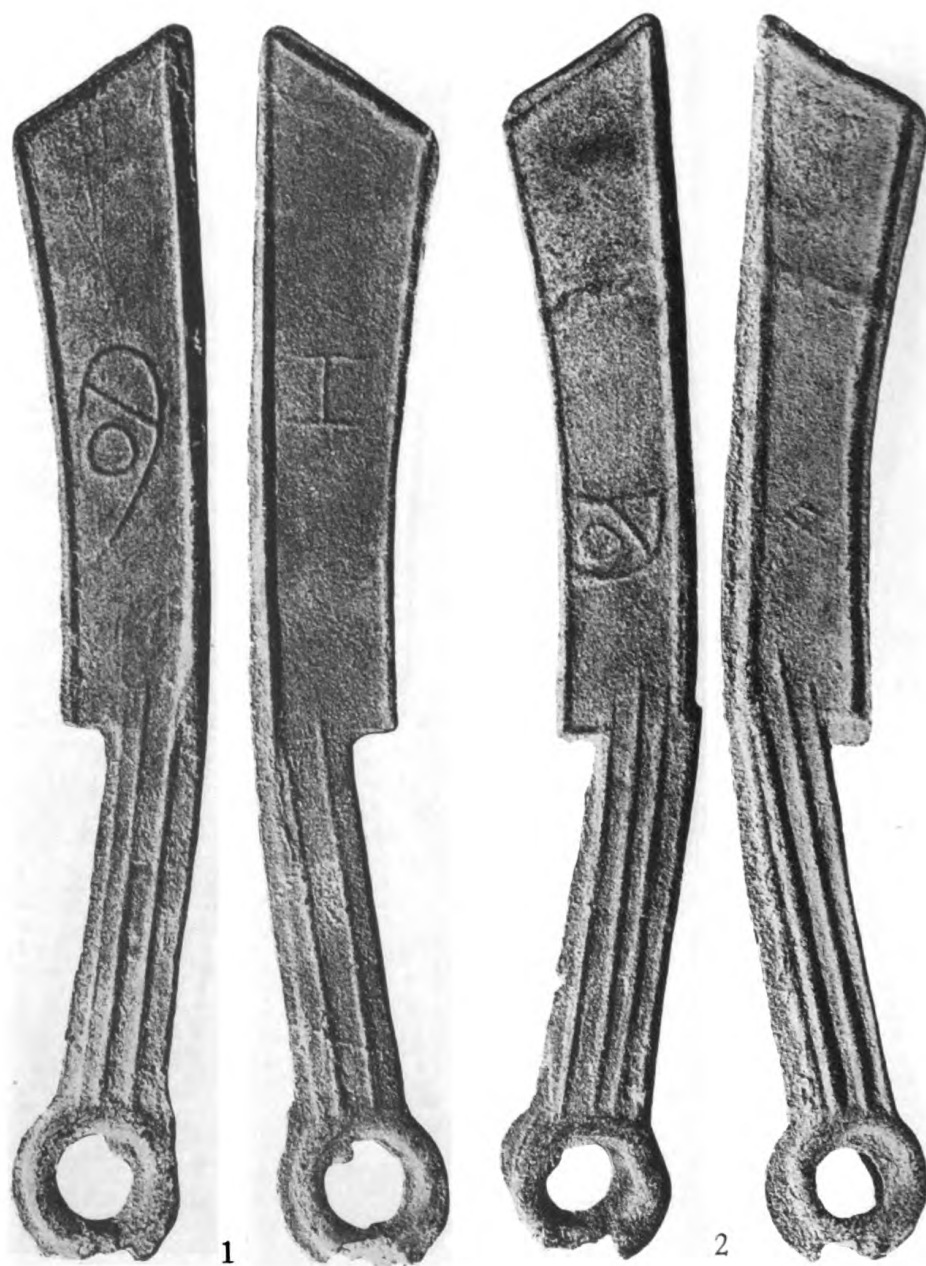
MING KNIVES



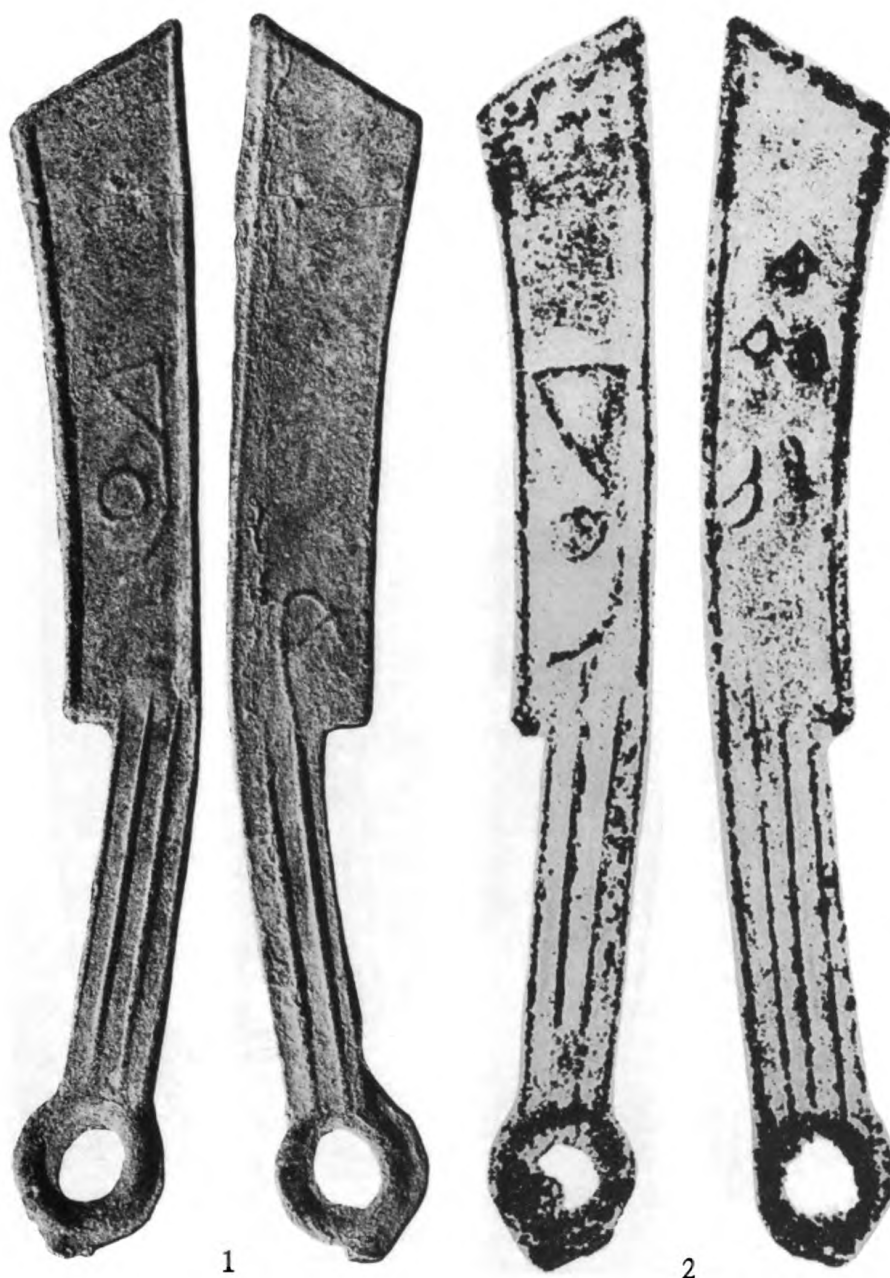
MING KNIVES



MING KNIVES



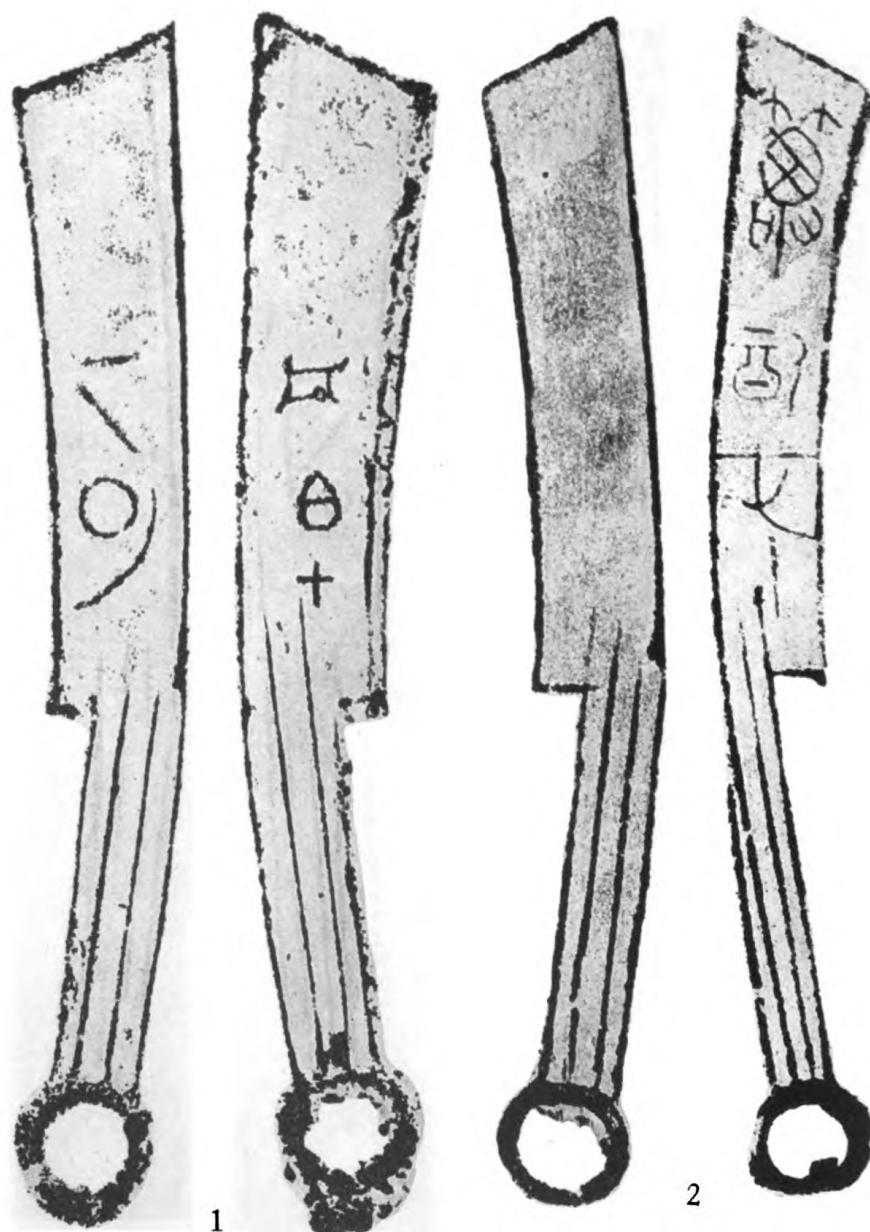
MING KNIVES



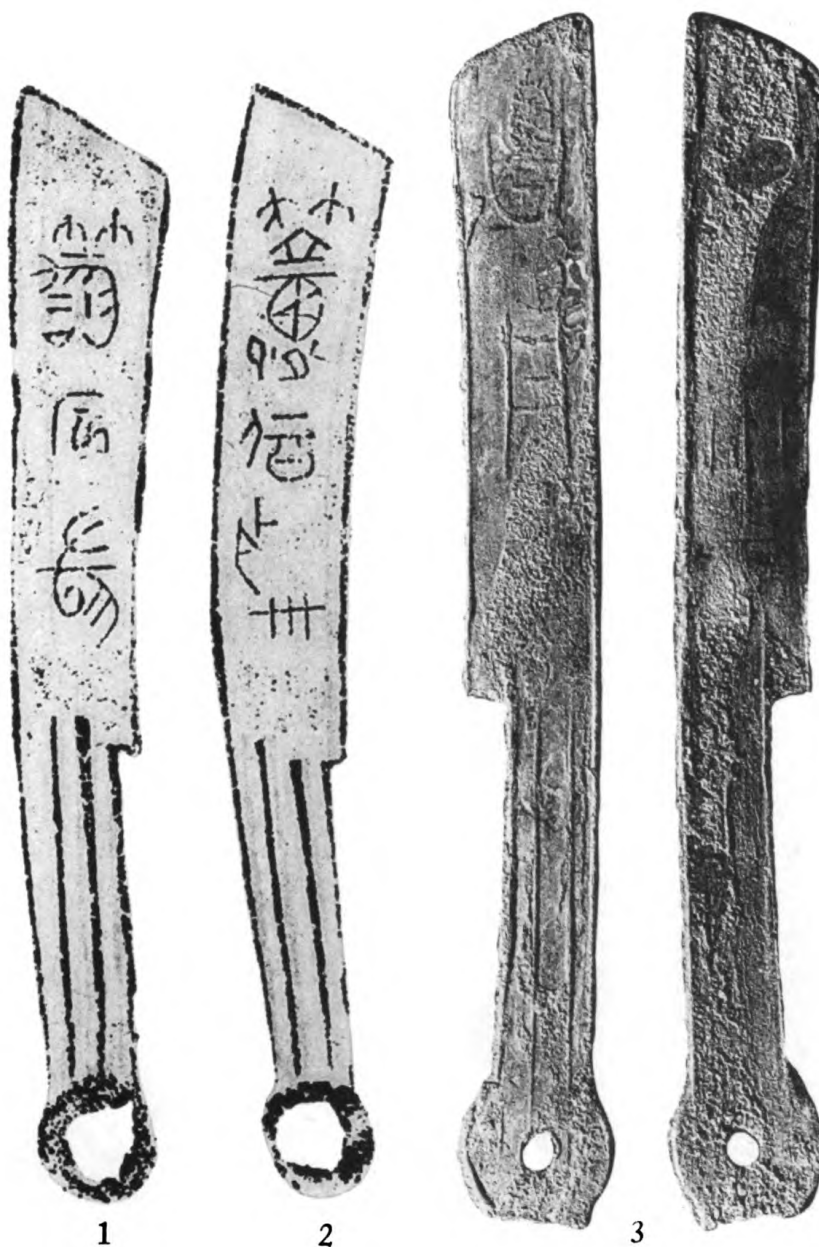
1

2

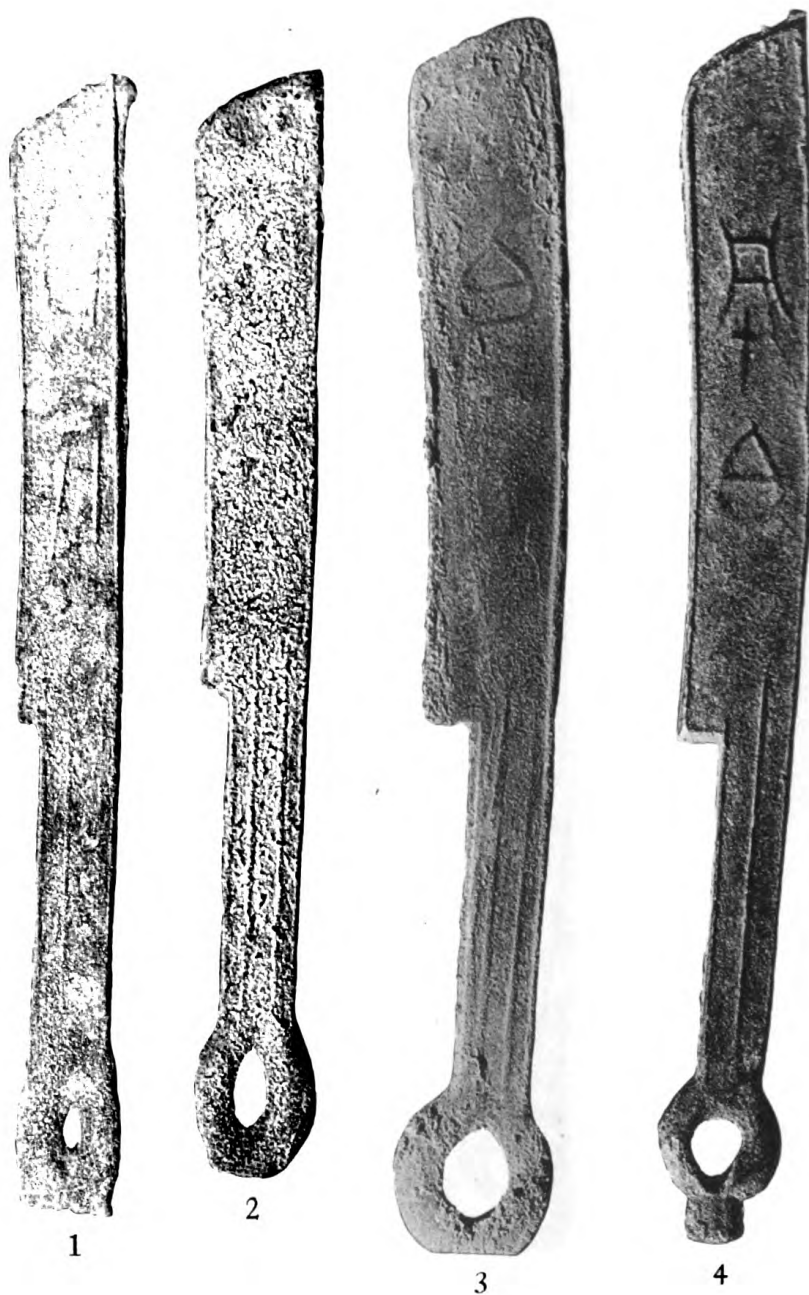
MING KNIVES



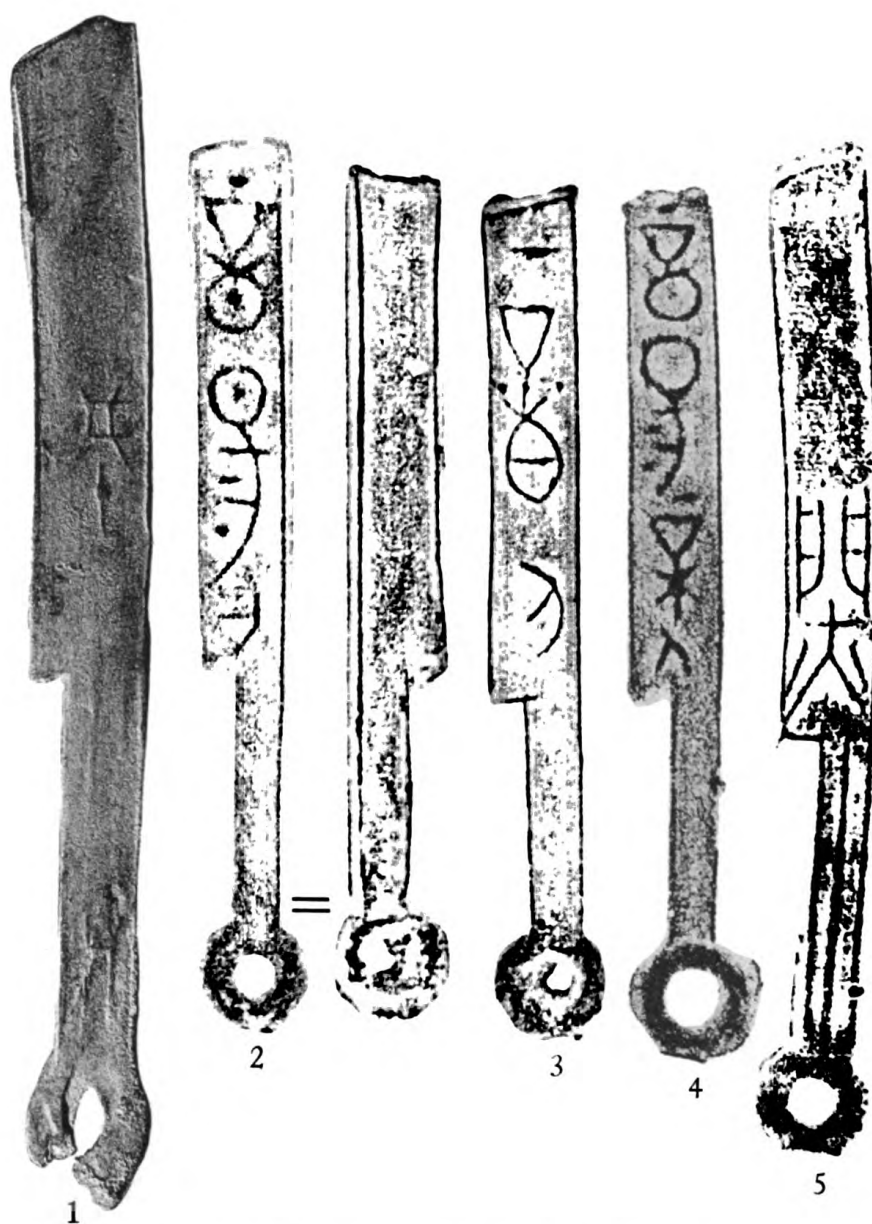
MING KNIVES: CH'ENG-PO (1), T'AN (2)



LATE KNIVES: T'AN (1-2), HAN-TAN (3)



LATE KNIVES



LATE KNIFE (1) SMALL KNIVES (2-5)

EARLY CHINESE COINAGE

PLATE LI



1



2



3



4



5



6



7



8



9



10



11

YÜAN-CHIN (1-5) ROUND COINS OF I (6-9)
MING ROUND COINS (10-11)



1



2



3



4



5



6



7



8

ROUND COINS: MING (1-2) AN-HSIANG (4)
CH'ANG-YÜAN (5-6) CHI-YIN (7-8)



1



2



3



4



5



6



ROUND COINS: CHI-YIN (1) CHIN-(YANG) (2)
KUNG (3-5) WESTERN CHOU (6)



1



2



3



4



5



6



ROUND COINS: LIN (1-3) EASTERN CHOU (4-6)



1



2



3



4



6



5



7

ROUND COINS: YÜ (1) YÜAN (2) CH'IN (3-4,6)
PROBABLY CH'IN (5,7)

NUMISMATIC NOTES AND MONOGRAPHS

No. 123

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BARBARIANS ON ROMAN IMPERIAL COINS AND SCULPTURE

By ANNALINA CALÓ LEVI



THE AMERICAN NUMISMATIC SOCIETY

Broadway at 156th Street, New York

1952

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NEW YORK 32, N. Y.

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NUMISMATIC NOTES AND MONOGRAPHS

Number 123

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Barbarians on Roman Imperial Coins and Sculpture

By ANNALINA CALÓ LEVI



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET

NEW YORK

1952

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TO MY HUSBAND

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PREFACE

I wish to express my appreciation of those who have aided me in this study. First, I wish to thank Professor Karl Lehmann of the New York University Institute of Fine Arts, without whose constant advice, valuable suggestions and kindly encouragement this paper could not have been written. The whole staff of the American Numismatic Society also gave great help and cooperation: especially Sawyer McA. Mosser who assisted me in the daily labors of my investigation and Sydney P. Noe who kindly gave access to the Museum's coins and permission to photograph specimens for illustration. I owe to the great courtesy and patience of Dr. Carlo Pietrangeli of Rome several photographs of casts now in Rome at the Museo di Roma, to my friend Dr. Catia Caprino information on objects in the Museo delle Terme in Rome and the knowledge of several articles and books unavailable in this country at the time this paper was written. I am also indebted for valuable information to Dr. Enrico Paribeni and Professor S. Cesano. Casts of coins have been kindly furnished by Mr. Frederick S. Knobloch and photographs by the Department of Coins and Medals of the British Museum and by Mr. Hans Holzer.

My special thanks are due to my friend Dr. Bluma L. Trell with whom it has been very pleasant to discuss several problems, to Miss Elaine Pond and Miss Winifred Andrew for their kindness in undertaking the tedious task of revising my English style.

NEW YORK, *OCTOBER 1948*

ABBREVIATIONS FOR FREQUENTLY CITED REFERENCES

BMC.	Mattingly, H. <i>British Museum Catalogue of Coins of the Roman Empire</i> , Vols. I—IV, London 1923—1940.
BMCR.	Gruber, H. A. <i>British Museum Catalogue of Republican Coins</i> , Vols. I—III, London, 1910.
G.	Gnecchi, F. <i>I Medaglioni Romani</i> , Vols. I—III, Milano, 1912.
Kaehler	Kaehler, H. "Triumphbogen," article in Pauly-Wissowa, <i>Real-Encyclopädie der classischen Altertumswissenschaft</i> , Zweite Reihe, Vol. 7 A 1, cols. 373—493.
Lugli, Monumenti	Lugli, G. <i>I Monumenti antichi di Roma e Suburbio</i> , Vols. I—IV Roma, 1931—1940.
Lugli, Centro	Lugli, G. <i>Roma Antica, Il Centro Monumentale</i> , Roma, 1946.
Maurice	Maurice, J. <i>Numismatique Constantinienne</i> , Vols. I—III, Paris, 1908—1912.
MS.	Mattingly H. and E. A. Sydenham, <i>The Roman Imperial Coinage</i> , Vols. I—V, London, 1923—1933.
Platner — Ashby	Platner, S. B. and Th. Ashby, <i>A Topographical Dictionary of Ancient Rome</i> , London, 1929.
Strack	Strack, P. L. <i>Untersuchungen zur römischen Reichsprägung des zweiten Jahrhunderts</i> , Vols. I—III, Stuttgart, 1931—1937.
Strong	Strong, E. <i>La Scultura Romana da Augusto a Costantino</i> , Vols. I—II, Firenze, 1923—1926.

PERIODICALS

A. J. A.	<i>American Journal of Archaeology</i>
Arch. Anz.	<i>Archäologischer Anzeiger</i>
Bull. Com.	<i>Bullettino della Commissione Archeologica Comunale di Roma</i>
Jhb.	<i>Jahrbuch des Deutschen Archäologischen Instituts</i>
Num. Chr.	<i>Numismatic Chronicle</i>
Röm. Mitt.	<i>Mitteilungen des deutschen archäologischen Instituts, Römische Abteilung.</i>

INTRODUCTION

Many studies dealing with Roman imperial art take into consideration Roman imperial coin types. The importance of these types in interpreting the meaning of extant works of art is generally accepted, but neither the extent nor the limits of numismatic contribution to the study of art history of the imperial period has yet been clearly defined.

That many official reliefs, statues and paintings of the empire influenced coin types is now a matter of common knowledge. It has been recognized by both archaeologists and numismatists.¹ How far this influence went and which types can be considered direct derivatives from sculpture or paintings is still uncertain although Regling,² Strack³ and others emphasized the changes which are to be expected in the passage of certain motifs from sculpture and paintings to coins: abbreviations, liberty in representing the attributes, etc.

An investigation into the possible direct inspiration from sculpture or painting is appropriate for those motifs which we know — from extant monuments or from literary sources — to have appeared in the official art as well. To mention a few of these representations: images and busts of emperors, gods, prisoners, personifications of provinces. Also, many of the more elaborate compositions on the coins show similarities to the historical reliefs.⁴ Many investigations of the origin of the coin types run into serious difficulty. There are many coin types which are very common. They occur on coins of

¹ See especially H. Mattingly, *Roman Coins*, pp. 178 ff.; K. Regling, *Die antike Münze als Kunstwerk*, pp. 116 ff.; K. Regling, in Otto, *Handbuch der Archæologie*, I, pp. 139 ff.; L. Breglia, in *Rendiconti Accad. Arch. di Napoli*, XVII, 1937, pp. 115 ff.; A. Picard, in *Revue Archéologique*, XXVI, 1946, pp. 53 ff.; P. G. Hamberg, *Studies in Roman Imperial Art*, pp. 16 ff. and for the medallions, J. M. C. Toynbee, *Roman Medallions*, pp. 212 ff.

² Regling, *op. cit.*

³ Strack, I, pp. 13 f.

⁴ Cf. H. Mattingly, *loc. cit.*

2 *Barbarians on Roman Imperial Coins and Sculpture*

several emperors, without any important change. It would not be reasonable to assume that all these identical types derive from a complete series of sculptures or paintings. It does not seem very likely either that all die engravers successively took their inspiration directly from the same work of art.

A solution to this problem was given by Lehmann who expressed the theory that new coin types reflect an only slightly earlier work of the official art.⁵ Therefore, an origin from a sculpture or painting may be assumed whenever a representation is found on a coin for the first time. Later coins with the same representation would copy the earlier type. This view was rejected by Strack⁶ and has yet to be definitely proved. It is evident that, as far as sculpture is concerned, the theory of the new types can be demonstrated only by a comparative study of several motifs as they appear both on coins and in sculpture during the whole imperial period.

Such a comparative study has been made in this paper and attention has been given to two problems closely connected with the theory of the new types. The first one is whether the theory is acceptable for the whole imperial period. The second is whether the coin types which are not new repeat earlier ones without any connection with the trends of official sculpture. A large number of representations both on coins and in sculpture have the purpose of celebrating a victory or the victorious power of the emperor. Unusually interesting among the coins of this kind are those which show figures of defeated barbarians. This class of representations is especially suitable as a basis for a comparative study because it represents a series which ranges from the age of Augustus until the latest times of the empire. This paper presents some of the results of a complete study of these figures of barbarians both on coins and in official sculpture. Types of

⁵ "Wenn so plötzlich auf Münzen ein neues Thema erscheint, noch dazu eines von an sich typisch und durchaus nicht singulär historischem Charakter, so darf als Anlaß und Vorbild ein gleichzeitig oder nicht viel früher entstandenes Werk der großen Kunst gelten" (K. Lehmann-Hartleben, *Trajanssäule*, p. 17; see also idem, in *Röm. Mitt.*, 38/39, 1923/1924, pp. 185 ff.).

⁶ Strack, loc. cit.

the coins as well as those of the medallions have been considered. Provincial and local coinage of the period is out of the scope of our inquiry since it presents a set of problems quite different from those of the Roman coins.

The ideas dictating the representations of the barbarians both on coins and in official sculpture are certainly the same. The victory always belongs to the emperor. On official reliefs the emperor always is the center of attention. Barbarians appear either to celebrate a specific victory of the emperor or, in a more general way, his victorious power. Battles between Romans and barbarians, the outcome of which might be uncertain, are unknown. The barbarian is always the vanquished, the humiliated, the prisoner, and the highest dignity he may reach is that of being invested by the emperor with the sovereignty of his country, only, however, as vassal king of the Romans. This Roman attitude towards the barbarian is evident from the earliest times of the empire and holds firm throughout the whole imperial period. The position of the barbarian grows more abased from the end of the second century. This is apparent from a comparison of the representations of the column of M. Aurelius with those of the column of Trajan.⁷ The barbarian on the column of M. Aurelius appears more completely defeated. The final annihilation of the enemy is a favorite theme of this monument. The majesty of the emperor is even more stressed than on the column of Trajan. Correspondingly, on the coins the barbarian becomes less important physically. He appears most often as an accessory to the figure of the emperor or Victory or some other Roman authority, whose majesty is increasingly stressed, and who often exercises acts of cruelty on the vanquished. It is interesting to recall the last arch we know to have been erected in Rome by the *Senatus Populusque Romanus* in honor of an emperor. This arch celebrated Arcadius, Honorius and Theodosius "because they had wiped off from the face of the earth the nation of the Goths"⁸ in 405, only four years before the assault on Rome by

⁷ M. Wegner, in *Jhb.*, XLVI, 1931, pp. 76 ff.

⁸ Kaehler, col. 400, no. 43; cf. R. Lanciani, *Ruins and Excavations of Ancient Rome*, p. 262.

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that nation. Also on the coins of the latest period, the emperor, in contrast to historic reality, is celebrated as the vanquisher of the barbarians. Neither on coins nor in official sculpture did the advent of Christianity cause any change in the conception of the barbarian. He appears until the end as a sign of a victory or of the victorious power of the emperor over his military enemies.

This identity of ideas is expressed through the same motifs both in sculpture and on coins. Faced with the necessity of expressing the maximum of ideas in a minimum of space, the die-engraver summarized multified scenes. Only the principal actors appear on coins. Landscapes, as well as every detail not essential to understanding the scene, are left out in the great majority of cases. Keeping this in mind, we find that the battle scenes of sculpture have their counterpart on the coins in representations such as those pictured in PLATE VI, 5; PLATE X, 5. The scene is usually reduced to the triumphant emperor and a single enemy. The various forms of homage scenes, that is those representations where the barbarian is paying homage to the emperor, can be seen abbreviated on several types (PLATE VII, 1). Barbarians in the triumphal procession (PLATE IX, 3) and the migrations of the barbarians after the war⁹ (PLATE XVII, 3) are also found on coins. Isolated figures of barbarians decorated buildings or fora, or spandrels of the arches, and are found on the coins (PLATE I, 3; PLATE V, 1). The well known motif of the prisoner or prisoners at the foot of a trophy is very common on coins. This is also true for those representations showing the emperor and a defeated enemy (PLATE VI, 2, 3).

The greatest difference between coins and official sculpture is in the number of times a certain motif appears. Homage scenes are comparatively rare on coins. The only abbreviated multified scene to appear very frequently on coins from the Flavians until the middle of the fourth century is the battle scene. Favorite subjects of the coins are prisoners at the foot of a trophy, and the emperor or Victory with a prisoner at or under his feet. These motifs have no narrative intent. They are purely symbolic. The preference for purely symbolic

⁹ On the migrations, see p. 47 f.

representations is natural, considering the limitations imposed by the flat and small reverse field, and it is an inherent character of the coin types of the imperial period.

It seems that we can distinguish three periods based on the symbolic or narrative character of the scenes: the first, which lasted until the reign of M. Aurelius and L. Verus, shows occasional scenes of a narrative character; the second, from M. Aurelius and Commodus until Constantine shows symbolic scenes on the coins and several multfigured scenes on the medallions; the third, after Constantine, shows almost exclusively symbolic figures on both coins and medallions. This division into three periods seems even more convincing if we notice that very often in the first period a certain war is celebrated by several new types and by several types formerly in use, and that details of arms and dress of the barbarians are rather carefully rendered. In the second period we find a far smaller number of new types on the coins and the barbarian is generally found as a small accessory to a figure of the emperor, Victory, or a virtue without any attention to details of dress and armor. The third period, with a few exceptions, shows a gradual impoverishment of the types.

THE FIRST PERIOD: FROM AUGUSTUS THROUGH M. AURELIUS AND L. VERUS

The new types with barbarians found on coins from the age of Augustus through the reign of M. Aurelius and L. Verus and their relationship to contemporary sculpture are the subject of this chapter. Not all new types of this period will be treated. Roman imperial sculpture does not offer us, as the coinage does, a complete series of dated monuments. A very large part of Roman sculpture is now lost. Among the new coin types, we have selected those which show a very close connection to extant works of the contemporary sculpture or else to works of sculpture for whose existence we have considerable evidence. These are the types which are treated at greater length. Mention is made also of several other types not only in the text, but especially in the footnotes, whenever this seems to give a better understanding of the topic under discussion. The conclusions we draw from the study of the above mentioned new types appear on p. 23.

A. PARTHOS . . . ROMAN[O]RUM . . . SIGNA RE[DDERE] MIHI . . . COEGI*

A triple arch appears on coins struck in Spain in 18/17 B. C.¹ (PLATE I, 1). This representation is very similar to the one found on denarii from the mint of Rome struck by the moneyer L. Vinicius in 16 B. C.² (PLATE I, 2). These are so similar that several authors believe

* *Res Gestae Divi Augusti*, C. Barini rec., V, 40—42.

¹ BMC, I, p. 73, nos. 427—429, pl. 10, 2, 3.

² BMC, I, pp. 14 f., nos. 77, 78, pl. 3, 4.

that both types give the image of the same arch.³ It seems, however, that the difference between the two is far too great to be explained only by the fact that the coins originate from two different mints. The two side passageways have a markedly different aspect.⁴ Furthermore, on the Spanish coins the two figures on the side of the central quadriga are certainly to be identified as barbarians because they are naked and have long hair and possibly beards. On the Roman coins they are very crudely drawn and on most specimens they look more like Roman soldiers than barbarians. The two types, therefore, probably reproduce two different buildings.⁵ While no satisfactory explanation has yet been found for the arch on L. Vinicius' denarius, no doubt is possible as to the one on the Spanish coins since the legend is clear enough.

It is the arch erected near the temple of Divus Julius in honor of the recovery of the standards lost by Crassus at Carrhae.⁶ The sculptures of this arch had a widespread influence. This is demonstrated by the fact that no figure of a barbarian presenting a Roman standard appears on any monument earlier than the arch.

The Parthian presenting a standard to Mars on the cuirass of the Augustus from Prima Porta was probably directly derived from the two standard bearers represented on the monument which appears on the Spanish coin. Their similarity is certainly striking.⁷

Among the coins Augustus issued celebrating his settlement of Partho-Armenian affairs are denarii struck at Rome in 18 B. C.⁸ On

³ Recently L. Lafranchi, in *Riv. Ital. Num.*, 27, 1914, pp. 317f.; Kaehler, col. 380, no. 9; L. B. Holland, in *A. J. A.*, L, 1946, pp. 52ff.

⁴ M. Stuart, in *A. J. A.*, XLIX, 1945, p. 233.

⁵ Recently M. Bernhart, in *Deutsches Jahrb. f. Num.*, 1938, pp. 151f.; G. Lugli, *Monumenti minori del Foro Romano*, pp. 77ff.; A. Deggrasi, in *Rendiconti Pont. Acc. Arch.*, 1945—1946, pp. 57ff.; G. Gatti, in *Rendiconti Pont. Acc. Arch.*, 1945, pp. 105ff.

⁶ Cf. Kaehler, loc. cit.

⁷ The derivation of this figure from the arch has already been suggested by E. Loewy, in *Röm. Mitt.*, 42, 1927, p. 215. On the Prima Porta Augustus, see lately A. Alföldi, in *Röm. Mitt.*, 52, 1937, pp. 48ff.; V. Müller, in *Am. Journ. Phil.*, 62, 1941, pp. 496ff.

⁸ BMC, I, p. 8, nos. 40—42, pl. 2, 2; idem, p. 11, nos. 56—59, pl. 2, 11, 12; idem, pp. 3f., nos. 10—17, pl. 1, 7—9.

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the reverse they show a kneeling Parthian holding a Roman standard (PLATE I, 3). The type is new for a Roman coin.⁹ It is connected by its legend (CAESAR AUGUSTUS SIGN RECE) with the event celebrated by the arch of Augustus. We also have good reason to connect the coin with this monument because of its type. This arch, which is not extant, may be connected with two triple arches erected at Pisidian Antioch. A triple arch was erected in that city by C. Julius Asper, consul of A.D. 212.¹⁰ From each of the two spandrels of the central archway come blocks with the relief figure of a barbarian kneeling and holding a Roman standard (PLATE II, 1). The similarity between the barbarian of the right spandrel¹¹ (PLATE II, 2) and the figure on the denarii is certainly striking both in regard to costume and to the type of standard he holds. The arch of Asper was certainly an imitation of an earlier one, also erected at Antioch,¹² in the age of Augustus. Remains of the sculptural decoration of this monument, too, are extant. Slabs once in the spandrels show kneeling barbarians. It seems possible that the prototype for these arches of Antioch was the arch of Augustus near the temple of Divus Julius. This arch very probably was decorated with figures of kneeling barbarians in the spandrels and at least one of them was a Parthian standard bearer similar to the one on the arch of Asper. This figure was very likely the model of

⁹ Kneeling barbarians holding Roman standards are later found on coins of L. Caninius Gallus (BMC, I, p. 27, nos. 127—130, pl. 4, 16) and Domitian (BMC, II, p. 42, nos. 231—233, pl. 7, 6). Also on a gem in Berlin (A. Furtwängler, *Die antike Gemmen*, pl. 37, no. 25; D. Mustilli, *L'iconografia e l'epopea di Augusto nella glittica*, p. 15, pl. II, 7); on a gladiatorial helmet in the Museum of Naples (W. Schmid, in *Strena Buliciana*, pp. 49 ff., figs. 3—5; Schumacher-Klumbach, *Germanendarstellungen*, I, no. 150; V. P. Bienkowski, *Germania*, II, 1918, p. 14); on a lamp in the Wollman Collection (Schumacher-Klumbach, op. cit., no. 95). The gladiatorial helmet and the lamp have been rightly connected with the recovery of the standards lost by Varus.

¹⁰ Th. H. Robinson, in *Art Bulletin*, IX, 1926, pp. 45 ff., figs. 69 ff.; Kaehler, col. 454, no. 5b.

¹¹ PLATE II, 2 shows the upper part of the kneeling barbarian (Robinson, op. cit., fig. 69), PLATE II, 1, a reconstruction by F. J. Woodbridge of the arch (Robinson, op. cit., fig. 67). For the lower part of the barbarian see Robinson, op. cit., fig. 71.

¹² Robinson, op. cit., pp. 21 ff., figs. 41, 42; Kaehler, col. 453, no. 5a.

the denarii referred to above. Possibly, another type of Augustus can be connected with the decorations of the spandrels in the same arch. The settlement of Armenia's affairs was also part of the political successes of 20 B. C. A kneeling Armenian is represented on denarii which were struck at Rome in 18 B. C (PLATE II, 3).¹³

B. Arcus Ad Isis and Judaea Capta Coins

Josephus¹ informs us that Vespasian and Titus spent the night preceding the celebration of their triumph for the capture of Jerusalem in the temple of Isis in the Campus Martius.² The triumph took place at the end of June in the year 71 A. D. Coins showing the temple of Isis on the reverse were struck to commemorate this event.³

The inscription on the attic of a triple arch represented on one of the reliefs from the tomb of the Haterii family⁴ (PLATE III, 1) reads ARCUS AD ISIS. It is generally agreed that the Arcus ad Isis was on the Via Labicana near the temple of Isis in the third region.⁵ Because of the location of the other monuments represented in the Haterii relief, it seems rather unlikely that the arch was located near the temple in the Campus Martius. The fact that the arch was erected near a sanctuary of Isis rather reflects the high consideration Isis enjoyed

¹³ BMC, I, p. 4f., pl. 1, 10—12; p. 8, no. 43, pl. 2, 3.

¹ Josephus, *De bello judaico*, VII, 5, 4.

² On this temple, see Platner-Ashby, pp. 283ff.; Lugli, *Monumenti*, III, pp. 107ff.; D. F. Brown, *Architectura Numismatica*, I, (New York University, 1941, diss. unpublished), pp. 95ff.

³ Brown, op. cit.

⁴ See specially Kaehler, col. 401, no. 45; Strack, I, p. 93; Spano, in *Atti Accad. Arch. di Napoli*, 24, 1906, pp. 259ff.; Cf. F. Castagnoli, in *Bull. Com.*, LXIX, 1941, p. 59 and for illustration P. Gusman, *L'art décoratif de Rome*, II, pl. 115.

⁵ See for instance Lugli, *Monumenti*, III, p. 389; Platner-Ashby, p. 40; Kaehler (loc. cit.) is uncertain whether the arch was set up in the vicinity of the temple in the Campus Martius or near the one in the third region. On the sanctuary of the third region, see Platner-Ashby, pp. 285f. It seems that a good solution to the rather entangled question of the exact location of this sanctuary is given by Lugli's hypothesis that two sanctuaries of Isis existed in the third region.

from Vespasian. When this arch was erected, we do not know. It might have been erected before the triumph, possibly very soon after the capture of Jerusalem (7/8 September 70). That it was erected for Vespasian and Titus' victory over the Jews is demonstrated by the fact that in the Haterii relief we see on the attic of the arch, on each side of the central quadriga, a palm-tree with prisoners tied at its foot. The palm-tree stands as a symbol for Judaea. It is probable that it was erected before 79, the year of Vespasian's death, since two arches were erected after this date which also commemorated the victory over the Jews. One was erected at the entrance of the Circus Maximus.⁶ The other, erected after Titus' death, is, of course, the one on the Sacra Via.⁷

The Jewish war was widely celebrated on coins also. Types referring to it form two main groups. The first is composed of coins issued by Vespasian and Titus before Vespasian's death and especially in the years 71 to 73. The second consists of coins of Titus issued in 80/81. Therefore, broadly speaking, the first group corresponds to the Arcus ad Isis, the second to the arch in the Circus Maximus. The first group presents several representations new to coins, while the coins of Titus Augustus repeat, as far as representations of barbarians are concerned, the most famous type of the issues of Vespasian's reign, a standing prisoner and a mourning woman at the foot of a palm tree⁸ (PLATE III, 2). Leaving aside, therefore, the coins of Titus Augustus, it is important to examine those issued during the reign of Vespasian. In most of these the palm tree appears over and over again as a symbol for Judaea and obviously as a substitution for the trophy.⁹ This

⁶ Kaehler, col. 385 f., no. 22; Platner-Ashby, p. 45.

⁷ Kaehler, col. 386, no. 23; K. Lehmann-Hartleben, in *Bull. Com.*, LXII, 1934, pp. 89 ff.

⁸ Sestertii of Vespasian: BMC. II, pp. 115 f., nos. 532—539, pl. XX, 4—7; idem, pp. 116 f., nos. 540—542, pl. 20, 9; idem, p. 185, nos. 761—764, pl. 33, 1—3; sestertii and as of Titus struck 80—81 A. D.: BMC. II, p. 256, nos. 161—163, pl. 48, 8; idem, pp. 256 f., nos. 164—170, pl. 48, 9, 10; idem, p. 266, no. ‡; idem, p. 294, no. 308, pl. 57, 4.

⁹ See the preceding and following note. The palm-tree may appear also as the single decoration of the field (see BMC. II, pl. 24, 1—3, 6); in the centre, with the emperor on

substitution is found for the first time on asses struck at Tarraco and at an unidentified Gaulish mint, and also on denarii of the mint of Rome in 69/70.¹⁰ On these coins a mourning Judaeon appears at the foot of a palm-tree (PLATE III, 3). The similarity of this motif, barbarians at the foot of a palm-tree, on the attic of the Arcus ad Isis and on the coins, is certainly striking.

Possibly, several of the coin types issued in honor of the victory over the Jews during Vespasian's reign, were influenced by this arch. It is noteworthy, for instance, that the type showing a standing prisoner and a mourning woman (PLATE III, 2) presents, for the first time in the history of Roman coins, two barbarians together in this attitude.¹¹ It should also be mentioned in this connection that the sculptor of the Haterii relief worked in a crude way and his details are generally sketchy.

one side and Judaea or a standing male prisoner on the other (see BMC. II, pl. 2, 10, 14; pl. 18, 20; pl. 19, 7; pl. 20, 8, 10; pl. 25, 1; pl. 33, 4; pl. 37, 1, 7; pl. 39, 1; pl. 40, 1; H. A. Cahn, in *Num. Chron.*, VI Series, VI, 1946, p. 11, no. 8, Pl. I, 5); on bronze coins where the emperor and suppliant Jews also appear (BMC. II, pl. 26, 2); with Judaea standing (BMC. II, pl. 12, 11, 12; pl. 13, 8, 9).

¹⁰ BMC. II, p. 181, no. 8, pl. 32, 1; idem, p. 193, no. 4; idem, pp. 6 f., nos. 43, 44, pl. 1, 13. The type appears later on coins issued in 71, 72, 73, 77/78 and also on undated ones.

¹¹ Generally, on Republican coins, whenever two barbarians are represented at foot of a trophy — it has been pointed out above that on the Judaea Capta coins the palm-tree is a substitution for the trophy — they are both seated or else one is seated, the other kneeling. Standing prisoners appear at foot of a trophy, but in scenes of a different kind, as on denarii of S. Sulpicius Galba (BMCR, I, p. 488, nos. 390 f., pl. XLVIII, 21) and L. Aemilius Paulus (idem, p. 418, no. 3373, pl. XLIII, 8). The motif of the standing man and seated woman at foot of a trophy was on the contrary, already well known in sculpture. To the monuments showing this motif quoted by K. Woelcke (in *Bonner Jahrbücher*, 120, 1911, p. 178) a few others should be added: the decoration on a shield on a relief at Parma (E. Loewy, in *Jahrb. d. Kunsthst. Sammlungen in Wien*, N. F. II, 1928, pl. III) and, later, the groups on the arch of M. Aurelius at Tripoli (G. Caputo, in *Africa Italiana*, 1940, p. 46, figs. 24, 29; Kaehler, col. 443, no. 50; of the earlier bibliography on this arch, see specially S. Aurigemma, in *Bollettino d'arte*, XIX, 1926, p. 554, fig. 6 and F. Noack, in *Warburg Vorträge*, 1925/1926, p. 200). See also the base found at Corinth (*Corinth, Results of Excavations*, IX, no. 224).

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It seems very probable that the most important new element found on the issues commemorating the Jewish war, the palm-tree, was borrowed from the sculptural decoration of the Arcus ad Isis.

C. Domitian's Tetrapylon and Germania Capta Coins

Domitian's triumph over the Chatti in 83 A. D. was widely celebrated on the coins of the period. Several new types appear showing barbarians. Among these, the type showing a standing prisoner and a mourning woman at the foot of a trophy, is especially interesting (PLATE IV, 1). It appears on sestertii struck in 85, 86 and 87.¹ Its similarity with the Judaea Capta type examined above is obvious. Nevertheless, at a closer examination, many differences between the two appear and several elements new to Roman coins are noticeable on the Germania Capta type. The trophy represented is different from any other trophy represented before on a Roman coin because of the German "sagum" so prominently displayed. On republican and earlier imperial coins, a cuirass or a short tunic is generally found in its place. Moreover, the weapons scattered in the lower part of the field are different from those represented on the Judaea Capta type. Coins of 85 A. D. also show an arch, a tetrapylon, surmounted by two quadrigae, drawn by elephants (PLATE IV, 2). This type appears for the first time on sestertii of the same issue as the first of the above quoted coins showing a standing prisoner and a seated woman at the foot of a trophy and later, without any important change, in 90/91 and in 95/96.² In Kaehler's opinion³ this tetrapylon is the *porta triumphalis* which is also represented after the age of Domitian on several monuments commemorating an emperor's entry into or departure from the

¹ BMC, II, p. 362, no. 294, pl. 70, 8; idem, p. 369, nos. 325, 326, pl. 72, 8; idem, p. 376, no. 361, pl. 74, 2; idem, p. 380, no. 372, pl. 75, 4; idem, p. 385, no. 395, pl. 76, 6.

² BMC, II, p. 364, no. † pl. 71, 6; p. 399, no. *; p. 407, no. †, pl. 81, 1. On this arch see especially Kaehler, col. 374; cf. M. Bernhart, *Handbuch zur Münzkunde der römischen Kaiserzeit*, p. 133; J. Liegle, in *Antike*, 1936, p. 219, fig. 20b.

³ loc. cit. in note 1. The same theory is also propounded by F. Castagnoli in *Bull. Com.*, LXXI, 1943-1945, pp. 137 ff.

city.⁴ This theory is certainly not contradicted by the fact that the construction of the tetrapylon was connected with Domitian's victory over the Chatti.

The most detailed representation of the monument is that on one of the Aurelian reliefs of the arch of Constantine (PLATE IV, 3).⁵ On the attic, at the left, a group of a standing prisoner and a mourning seated woman at the foot of a trophy is visible. The prisoner wears the costume of the Germans. The group does certainly differ in several details from the one on the coins (PLATE IV, 1), especially as far as the arms are concerned. The prisoner's hands are tied in front, while on the coins they are tied in back. Nevertheless, it cannot be denied that the general composition of the scene, the costume of the man, the attitude and dress of the woman are the same. It is very likely that one coin type reproduces one group of the arch — another certainly existed on the other side of the elephants' quadriga, and the Aurelian sculptor did not have space enough for it — and the other coin type reproduces the arch itself.

It has been noticed above that the trophy on the type in PLATE IV, 1 is different from any other trophy represented before on a Roman coin because of the German "sagum" so prominently displayed. This same kind of trophy appears on other coins of Domitian commemorating the same war. That this trophy was influenced by the sculpture of the period is shown by one of the two trophies of the period of Domitian which now decorate the balustrade of the Capitol in Rome, the so-called "trofei di Mario." This trophy also has the "sagum."⁶

⁴ Stuart Jones (in *Papers Brit. School at Rome*, III, 1906, pp. 259 ff.) has already identified the arch represented on two medallions of M. Aurelius (G., II, p. 27, nos. 2, 3, pl. 59, 5), on two Aurelian reliefs of the arch of Constantine (H. P. L'Orange, *Spätantike Bildschmuck des Constantinsbogens*, pl. 47a, b) with the tetrapylon on the sestertii of Domitian. The tetrapylon is again represented on the Constantinian friezes of the same arch (see L'Orange, op. cit., pp. 74 and 79 ff., pls. 13b and 18d). Cf. also Martial, VIII, 65.

⁵ L'Orange, op. cit., pl. 47b; Strong, pp. 253 ff., fig. 158; Hamberg, op. cit., pp. 83 ff., pl. 11; M. Wegner, in *Arch. Anz.*, 1938, p. 180; J. Dobias, in *Revue Numism.*, 35, 1932, p. 155; etc.

⁶ The connection between the trophy of the coins and the one on the Capitol has been

D. Some Trajanic Sculptures and Related Coin Types

Many new coin types showing figures of barbarians were struck during Trajan's reign. They commemorate his wars on the Danube and in the East. Most of them present symbolical figures or groups. Some show scenes of a narrative character. On denarii dated to 107/III, a Dacian prisoner appears as the only figure on the reverse¹ (PLATE V, 1). He is standing left, with his hands tied in front. This is the only representation on a Roman coin of a standing prisoner with hands thus tied. The only example to occur in sculpture earlier than the age of Trajan, is in the group on the attic of the tetrapylon of Domitian² (PLATE IV, 3). Because of his attitude and his nationality, the Dacian on the denarii immediately recalls the well known statues on the attic of the arch of Constantine³ (PLATE V, 3). They formerly

suggested by K. Lehmann-Hartleben (*Röm. Mitt.*, 38/39, 1923/1924, p. 192). On the "trofei di Mario" see also Strong pp. 128 f., fig. 82; W. Helbig- W. Amelung, *Führer durch die öff. Sammlungen klassischer Altertümer in Rom*, I, pp. 409 ff.; P. Bienkowski, *De simulacris barbararum gentium apud Romanos*, p. 39, fig. 19; M. J. Macrea, in *Anuarul Institutului de studii clasice*, II, 1933/1935, p. 109. In this connection, see also the interesting coin type showing a male barbarian in front of a trophy found on an aureus of Domitian (Basel Münzhandlung Sale Cat., 6, 1936, pl. 16, no. 1639).

¹ BMC. III, pp. 82 f., nos. 381—383, pl. 15, 13.

² See above, p. 13.

³ Seven of the eight statues on the attic have been restored, and one is entirely modern (cf. *Bull. Com.*, 1918, pp. 161 ff., pl. V). The lower part of the original eighth statue is in the Museo Capitolino (H. Stuart Jones, *The Sculptures of the Museo Capitolino*, p. 31, no. 21, pl. 7; cf. the statue in the Villa Borghese, Arndt-Amelung, *Einzel-aufnahmen*, no. 2867). A similar image, probably of a somewhat later date, is in the Museo Laterano (A. Della Seta, *I monumenti dell'antichità classica*; II, fig. 516); three heads (two of these were found in the Forum Traiani) are in the Braccio Nuovo (W. Amelung, *Die Sculpturen des Vaticanischen Museums*, nos. 9, 118, 127) cf. also a torso in the Chiaramonti (Amelung, op. cit., I, pl. 57, no. 356) and a head in the British Museum (Catalogue no. 1770). They are remains of similar statues. For the porphyry Dacians, now in Paris and Florence, and their possible connection with the "porticus porphyretica" of the Forum of Trajan, see R. Delbrück, *Antike Porphyrywerke*, pp. 43 ff., pls. 3, 4 and p. 135; cf. R. Paribeni, *Optimus Princeps*, II, pp. 82 f.; for the prisoners in the Museo Nazionale of Naples, Paribeni, op. cit., II, pp. 78 f., fig. 9; Guida Ruesch, p. 22, nos. 76, 77. On the Trajanic statues of prisoners in general, M. Pallottino, *Arte figurativa e ornamentale*, p. 95.

decorated the Forum Traiani, probably the colonnades. Their exact date is not known. The Forum was dedicated in 113 A. D. Work on the new Forum had possibly already begun during the reign of Domitian,⁴ certainly by 107. There is no reason to believe that the statues did not already exist at the time the denarii (PLATE V, 1) were issued. In this case we have, therefore, the prototype of a new coin type among the extant works of sculpture.

It is interesting now to investigate whether the colossal statues of the Dacians were new creations of Trajan's period. Similar statues were used later as decorations of public buildings of various kinds.⁵ It is possible, however, that they were first used on a triumphal arch, in the same place the Dacians of the period of Trajan now occupy on the arch of Constantine. In fact, a triple arch appears on a sestertius of 100 A. D.⁶ The aspect of the attic suggests that statues had been set up in front of it⁷ (PLATE V, 2). Neither the location of this arch nor the occasion for its construction is known since Trajan had not achieved any major military success up to this date.⁸ It is well known that most of the many arches Domitian erected in Rome were destroyed after his death.⁹ It is not unlikely that some were only defaced. We know of an inscription which has been connected by Mommsen with an arch erected for Domitian's victories over the Dacians and the Chatti.¹⁰ It is possible that the arch represented on

⁴ See Lugli, *Centro*, p. 280. Cf. Platner-Ashby, pp. 237 ff.

⁵ A colossal statue of an Oriental barbarian found at Ephesus (J. Keil, in *Jahreshefte öst. Inst.*, XXVIII, 1933, Suppl. col. 37 f., no. 4, fig. 22) has certainly the Dacian of Trajan as prototype. At Ephesus the torso of another colossal barbarian was found (Keil, op. cit., cols. 38 f., no. 5, fig. 21). Cf. also the "stoa of the colossal figures" at Corinth (*Corinth, Results of Excavations*, IX, pp. 101 ff., nos. 217 f.) where barbarians appear as supporting figures on the upper story.

⁶ BMC, III, p. 152, no. †; Strack, I, p. 92, pl. IV, no. 331. See Kaehler, col. 387, no. 25.

⁷ Kaehler, loc. cit.

⁸ The victory over the Suebi of 97 is the only one which could be taken in consideration.

⁹ Dio Cassius, LXVIII, 1.

¹⁰ CIL, VI, 1207; cf. Kaehler, col. 387, no. 24 and L. Morpurgo, in *Bull. Com.*, 36, 1908, p. 124, 4.

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Trajan's sestertius reproduces an arch erected by Domitian, rededicated by Trajan and decorated, on the attic, with colossal statues of Dacians.

Although they will be treated later again, in connection with the barbarian as an "attribute,"¹¹ mention should be made now of three new Trajanic coin types. They have already been interpreted by several scholars. Mattingly and Strack regard them as direct reproductions of honorary statues of Trajan, now lost. One is found on a sestertius (PLATE VI, 2) struck between 104 and 111.¹² In this type, the statuary origin is suggested by the big base decorated with festoons. On this base, military eagles and standards are visible. In the center, there is a second base (?) on which Trajan stands clad in a toga. He holds the triumphal insignia, the laurel branch and sceptre. Two small barbarians appear, one on either side of the emperor. In some specimens, they seem to be kneeling and appear to be supported by shields. A flying Victory on the right above is crowning Trajan. She is probably an addition or a variant due to the die-engraver. The eagles, the standards and the barbarians are very likely part of the original composition.¹³

On aurei and sestertii struck between 103 and 111,¹⁴ Trajan appears with his foot on a Dacian (PLATE VI, 3). The closest numismatic

¹¹ See p. 23 ff.

¹² BMC, III, p. 174, no. 826, pl. 30, 5. On this coin, see also Strack, I, p. 112, no. 364, pl. V; A. Alföldi, in *Röm. Mitt.*, 49, 1934, p. 68, pl. II, 1; W. H. Gross, *Bildnisse Trajans*, p. 14, pl. 44g; cf. also H. Lehner, in *Bonner Jahrbücher*, 122, 1912, pp. 430 f. This is the first coin where an emperor appears with two barbarians symmetrically represented at his feet, one on each side. The only precedent for the type can be seen among the coins issued by Faustus Cornelius Sulla, where the moneyer's father appears seated on a tribunal with king Bocchus on the left, and Jugurtha on the right (BMCR, I, p. 471, nos. 3824 f., pl. XLVII, 18; cf. L. Cesano, in *Studi di Numismatica*, I, 1942, p. 241).

¹³ The flying Victory would suggest a painting or a relief rather than a statuary group. But not only is a statue suggested by the large base, but also by the statuesque appearance of the figure of Trajan.

¹⁴ BMC, III, p. 65, no. 242, 243, pl. 13, 13; idem, p. 173, no. 822; idem, 174, nos. 823, 824, pl. 30, 3. Cf. also Strack, I, p. 113; G. Rodenwaldt, in *Jhb.*, 37, 1922, p. 27 and pp. 23 ff. of this paper.

precedent for this type is the sestertius on which Domitian is represented with his foot on the river Rhine.¹⁵ Trajan's type shows a new detail, only the head and shoulders of the barbarian are visible. This detail is also found on another type of Trajan,¹⁶ but it disappears afterwards. It is certainly peculiar. From an artistic point of view, it is also rather awkward. The coins of Trajan show a generally high standard of artistic ability. Why did the die-engraver choose such an awkward detail? Why didn't he represent the whole figure of the emperor's enemy? The whole figure would have been far more effective. The meaning of the scene would have been far more readily understandable. A careful examination of the coin types — those earlier as well as those later than the type of PLATE VI, 3 — does not give, at least to the writer, an explanation of the reason the die-engraver used the half figure of the barbarian. The fact that this detail disappeared so soon from the coins seems rather to suggest that the die engravers did not consider it the best device to represent the emperor's enemy on a coin.

However, there is an explanation for this peculiar detail. A statue of Hadrian was found at Hierapytna (Crete). It is now at Constantinople.¹⁷ The emperor appears in military dress. He is standing with his left foot on a defeated barbarian (PLATE VI, 1). Should an artist wish to reproduce this statuary group on a very small and flat surface he would have to resort to some devices. The emperor would have to be represented more or less in profile otherwise his attitude would not be very clear. An exact reproduction of the whole figure of the recumbent barbarian would hardly be possible. On a small and flat field this recumbent figure would be hardly recognizable. The artist would most probably limit himself to that part of the figure which is more clearly visible from every angle, the head and the shoulders.

¹⁵ BMC. II, pl. 71, 2; pl. 72, 12; pl. 75, 5; pl. 76, 7.

¹⁶ On these, Pax sets her foot on the Dacian (see BMC. III, pl. 13, 4; pl. 29, 3, 4; pl. 36, 5. Cf. Roma with her foot on the head of a barbarian in BMC. III, pl. 28, 4.

¹⁷ G. Mendel, *Catalogue du Musée Ottoman*, II, pp. 316ff., no. 585; for bibliographical references see *Mostra Augustea, Catalogo*, II, p. 14, no. 3.

² Monograph 123

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It is interesting to notice that even on a mechanical photographic reproduction such as PLATE VI, 1 the head and the shoulders are the most clearly visible parts of the recumbent barbarian.

Thus, the statue of Hierapytna gives the explanation, we have been seeking in vain, of Trajan's coin type. From the above said, the statue found at Hierapytna shows both the emperor and his defeated enemy in about the same attitude of Trajan and his Dacian. It seems to us that the only possible explanation for the half figure of the barbarian on Trajan's coin is the assumption that a statue of Trajan as model of the type existed. This statue must have been very similar to the one of Hadrian found at Hierapytna.

It has been pointed out above¹⁸ that coin types showing a riding emperor and his enemy or enemies are to be interpreted as an abbreviation of a more complex battle scene. This kind of representation is found on coins of the Flavians since 72/73.¹⁹ A type on a denarius of 101/102²⁰ (PLATE VI, 4) shows several differences from earlier similar types (PLATE VI, 5), and is, therefore, to be considered new. Trajan is not represented in military dress, fighting and spearing his enemy, but, clad in a toga, raising his hand. His horse is pacing and not galloping. He seems totally unaware of the suppliant enemy who is merely his symbolic accessory rather than his enemy. Mattingly and Laffranchi²¹ suggest that the type might be a reproduction of a statue of Trajan. It is believed that most types in which the horse appears pacing or standing still reproduce equestrian statues²² and we know of an "equus Traiani" which was erected in the center of the Forum.²³

Narrative scenes with barbarians appear most frequently on coins referring to Trajan's Eastern war. The REX PARTHUS type issued

¹⁸ See pp. 4 f.

¹⁹ See BMC. II, pl. 25, 2; pl. 26, 3.

²⁰ BMC. III, p. 48, no. 137, pl. 11, 12.

²¹ Cf. preceding note; see L. Laffranchi, in *Numismatica*, VIII, 1942, p. 45.

²² Laffranchi, op. cit., p. 44.

²³ Ammianus Marcellinus, XVI, 10. Cf. R. Lanciani, *Ruins and Excavations of Ancient Rome*, p. 315. "Pacing horse" types of later emperors will be studied on p. 26.

in gold and bronze²⁴ commemorates the appearance of the Parthian prince Parthamasiris before Trajan at Elegeia in 114²⁵ (PLATE VII, 1). The "REGNA ADSIGNATA" type, also on gold and bronze coins²⁶ portrays the investiture of three kings by Trajan following the success of the campaign of 115, an otherwise unrecorded event (PLATE VII, 2). The "REX PARTHIS DATUS", on sestertii only,²⁷ records (PLATE VII, 3) King Parthamaspatēs' investiture. These types are among the very few on imperial coins which represent barbarians as individuals and not as mere symbols of the vanquished race. On the "REX PARTHIS DATUS" coins, however, the figure of personified Parthia appears on the left. There is no attempt at individual characterization of the barbarian princes in any of the three types. All three types are to be considered new.

Although scenes of homage as well as investitures had been represented before on Roman coins, the composition of earlier types was simpler than that of the types of Trajan's period. For instance, Artaxias' investiture by Germanicus appears on a denarius struck by Caligula at Caesarea.²⁸ Here, only Germanicus and Artaxias are re-

²⁴ BMC. III, p. 103, *; p. 106, † (see for illustrations: *Riv. Ital. Num.*, 27, 1914, pl. IV, 16; Strack, op. cit., I, pl. III, 220); idem, p. 215, †, pl. 40, 8.

²⁵ C. A. H., XI, p. 243 and pp. 236 ff. on the Eastern war in general. Cf. also R. Paribeni, op. cit., II, pp. 278 ff.

²⁶ BMC. III, p. 115, nos. 588 ff., pl. 19, 19; p. 120, nos. 613 ff., pl. 20, 10; idem, p. 222, nos. 1043 f., pl. 42, 10.

²⁷ BMC. III, p. 223, nos. 1045 ff., pl. 43, 1. Cf. C. A. H., XI, p. 249.

²⁸ BMC. I, p. 162, no. 104, pl. 28, 1. This is the only investiture scene earlier than the types of Trajan. Its composition, with only two figures, both of which standing, is found again on coins of Antoninus Pius (BMC. IV, pp. 204 f., nos. 1272 ff., pl. 29, 2 and 8 and p. 367, no. §). The composition of Trajan's coin, with the emperor seated on a platform and additional figures, appears again on the coins of L. Verus showing the investiture of Sohaemus as king of Armenia (BMC. IV, p. 426, nos. 300 ff., pl. 58, 11; idem, pp. 562 f., nos. 1099 ff., pl. 75, 8 and pl. 76, 1; idem, p. 566, nos. 1125 f., pl. 76, 6 A). Medallions of Verus, struck in 166 (G., II, pl. 74, 1 and 75, 10; cf. J. M. C. Toynbee, *Roman Medallions*, p. 110, pl. 42, 4) show an adlocutio rather than the investiture of a foreign prince. After L. Verus, investitures disappear from the Roman coins, although the appointment of Abgar X by Gordianus III is represented on the local coins of Edessa (A. R. Bellinger, *The Eighth and Ninth Dura Hoards*, NNM. 85,

presented and both are standing. Similarly, the scenes of homage on earlier coins did not have such an elaborate composition as the "REX PARTHUS."²⁹ The reliefs of the column of Trajan show scenes which are very similar to the three coin types under consideration³⁰ (PLATE VIII; PLATE VII, 4), although they have a far greater number of figures. That the reliefs of the column provided the model for the die-engraver is chronologically possible. The exact date at which the sculptured frieze was completed is not known,³¹ but the date of the dedication of the monument was May 18, 113 A. D.³²

1939, pl. 3, 52, 54). Strack (op. cit., III, p. 66) notices that in investitures of Parthian and Armenian princes on Roman coins, the barbarian has his back turned toward the emperor and his hand raised to the diadem. He suggests that this reproduces a real act of court ceremonial during the investiture of Oriental princes. This suggestion requires a confirmation from other sources, which cannot be found in extant works of sculpture. The gesture of raising the hand to a diadem or a tiara appears also on monuments which are earlier than the Roman imperial times and does not represent an investiture (See the base of Lysip's statue of Poulydamas in G. D. K. Treu, *Die Bildwerke von Olympia*, III, p. 209, pl. LV, 1—3). Generally, in Roman sculpture, no definite line can be drawn between investitures and homage scenes. It seems very probable that one of the reliefs of the arch of Trajan at Benevento (A. Meomartini, *I monumenti di Benevento*, p. 132, pl. XXIII) is to be interpreted as portraying the investiture of a Northern chief because of the similarity with the above quoted type of Antoninus Pius. The scene in one of the Aurelian reliefs of the arch of Constantine (L'Orange, op. cit., pl. 46a) has also been interpreted as an investiture by several scholars (see A. Domaszewski, *Religion des röm. Heeres*, p. 6; M. Wegner, in *Arch. Anz.*, 53, 1938, pp. 176 ff.; J. Dobias, in *Revue Num.*, Series IV, 35, 1932, pp. 159 ff., etc. See also Hamberg, op. cit., pp. 87 ff.).

²⁹ Cf., for instance, BMC. I, p. 84, nos. 492 ff., pl. 12, 13—14 (of Augustus); BMC. II, p. 137, no. *; idem, p. 147, no. 652, pl. 26, 2 (of Vespasian and Titus).

³⁰ K. Lehmann-Hartleben, *Trajanssäule*, pl. 23, no. 44; pl. 35, no. 75 (cf. PLATE VIII of this paper); see also pl. 46, no. 100 (cf. PLATE VII, 4).

³¹ See Lehmann-Hartleben, op. cit., pp. 4 and 113; E. Strong, *Art in Ancient Rome*, II, pp. 76 f.; Lugli, Centro, p. 290.

³² G. Calza, in *Notizie degli Scavi*, 1932, p. 201. The column certainly provided the model for several coin types which do not really pertain to this study. Among these, a sestertius of 114/115 might be mentioned (PLATE IX, 1). See BMC. III, p. 216, no. *; Strack, I, p. 226, no. 453, pl. 8. The type was later imitated on a medallion of Hadrian (Strack, II, no. 443, pl. XVI; Toynbee, op. cit., pl. 26, 9) and also on coins of M. Aurelius (Cf. J. Dobias, *Intern. Num. Congress*, 1936, pp. 177 ff.). This sestertius shows a pile of arms. Never before has a pile of arms of an almost square shape appear-

E. The Period of M. Aurelius and L. Verus

The study of coin types is bound up with the study of the types on medallions.¹ Any consideration of the former necessitates study of

ed as the single decoration of the field. This pile of arms occupies a large portion of the field. The type seems almost the numismatic translation of the base of the column of Trajan (on this base, see Hamberg, *op. cit.*, pp. 123 f.). The only difference lies in the conspicuous place occupied on the coin by the quiver and arrow. This is obviously a reference to Trajan's Eastern war.

Another instance of the close similarity between a coin representation and an official relief may be found on the arch of Benevento. It gives one more proof of the identity of ideas and subjects in official sculpture and coins. On the attic of the arch, on the side facing the country, Trajan appears receiving the submission of a female personification, kneeling between two rivers (Meomartini, *op. cit.*, p. 160, pl. XXVI; Strong, II, pl. XL). The similarity between the relief and the coin type of Trajan (PLATE IX, 2) with the legend ARMENIA ET MESOPOTAMIA IN POTESTATEM P R REDACTAE (BMC. III, pp. 221 f., nos. 1033 ff., pl. 42, 6—8) was noticed a long time ago and pointed the way to the right interpretation of the relief (A. Domaszewski, *Die Religion des röm. Heeres*, pp. 56 f.; *idem*, in *Jahreshefte öst. arch. Instituts*, II, 1899, pp. 184 f., fig. 93). It shows Trajan receiving the submission of Mesopotamia, or, possibly, that of Armenia, (see J. M. C. Toynbee, *Hadrianic School*, pp. 15 ff.; Hamberg, *op. cit.*, pp. 69 f.) standing between the Tigris and Euphrates rivers. The coin type, struck in 116/117, is new. Similar representations appear later on medallions of L. Verus (G., II, nos. 23, 24, pl. 74, 8; *idem* nos. 34, 35, pl. 75, 6) where M. Aurelius and L. Verus appear between the Tigris and the Euphrates and on denarii of Caracalla (MS., IV, 1, p. 236, no. 175; *idem*, p. 227, no. 96). The two river gods, without the emperor, appear on bronze coins of Geta (MS., IV, 1, p. 340, no. 171, pl. 16, 5. Cf. also the medallions of Alexander Severus and Gordianus III: G., II, p. 81, no. 17, pl. 99, 6; p. 88, no. 18, pl. 104, 1; p. 89, no. 24, pl. 104, 7—8). Despite their similarity, however, the relief of Benevento and Trajan's type do not seem to be derived from a common model. It is true that an arch was erected at Rome by the senate for Trajan's successes in the East in 116 A. D. (Kaehler, col. 388, no. 28, Cf. Dio, 68, 29). This arch could have had some influence on the arch of Benevento, at least in part, should the theory be accepted that 114 is the year in which the arch of Benevento was voted, rather than the year in which it was dedicated (see G. A. S. Snijder, in *Jhb.*, 41, 1926, pp. 94 ff. and, against this theory, Hamberg, *op. cit.*, pp. 67 ff.). The appearance of the figure of Trajan on the coin is certainly statuesque. It is possible to advance the *hypothesis* that the prototype might have been a statuary group, in which Trajan appeared with the two river gods and Armenia at his feet.

¹ Medallions are included, for instance, by Strack in his *Untersuchungen zur Reichsprägung des II. Jahrhunderts*, and by Mattingly in the introduction to Vol. IV of the catalogue of the British Museum.

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the latter. It is especially important in studying medallions to investigate the early history which the type might have had in the regular coinage. From the period of M. Aurelius and L. Verus, medallions show, more often than coins, multified scenes with barbarians.

A new type appears on medallions of M. Aurelius and L. Verus dated to 167² (PLATE IX, 3). The legend on M. Aurelius' medallion reads TR P XXI IMP III COS III; on L. Verus' specimens TR P VII IMP III COS III. Struck in honor of L. Verus' triumph in the Eastern war, it shows both M. Aurelius and L. Verus in the triumphal procession. In the background, two prisoners, at the foot of a trophy, are carried on a ferculum. It is easy to connect this type with a fragmentary relief in the Museo delle Terme.³ Here, a triumphal (PLATE IX, 5) procession is also represented, and two prisoners at the foot of a trophy are carried on a ferculum. The relief is generally believed to be of the age of M. Aurelius and the hypothesis has been advanced that it belonged to a triumphal arch. In this case, it must have been an arch erected in honor of L. Verus' eastern victories, as the pointed cap on one of the prisoners indicates. An arch was erected for L. Verus in the first regio, but we know nothing more about it.⁴ At present, therefore, it can only be pointed out that the new depiction of the prisoners carried on a ferculum found on the medallions of L. Verus was also represented in a work of contemporary sculpture.

² G., II, p. 33, no. 50, pl. 63, 1; idem, p. 47, nos. 17 ff., pl. 74, 4 and 73, 2.

³ R. Paribeni, *Le terme di Diocleziano e il museo nazionale romano*, 1932, p. 121, no. 182; cf. idem, p. 249, no. 754. On this relief, see also G. Cultrera, in *Bollettino d'arte*, III, 1909, pp. 6 ff.; Strong, p. 292, fig. 180; A. L. Abaecherli, in *Boll. Studi Medit.*, 1935/1936, pp. 1 ff. Probably, on both the relief and the medallions, the group on the ferculum does not represent real prisoners, but a similar statuary group carried in the procession (See Cultrera, op. cit.).

⁴ On this arch, see Kaehler, col. 390, no. 31. It is unknown whether the arch was set up for the triumph of 166 or after L. Verus' death. It is only hypothetical to connect the Torlonia relief (Strong, p. 257, fig. 164; see Wegner, op. cit., col. 168 ff., fig. 3) with this arch. The zoccoli in the church of SS. Nereo and Achilleo and in the Casino Borghese were connected with the arch by F. Cumont (in *Atti Accad. Pontif. Arch., Memorie*, III, 1932, p. 81); they seem, however, to be too small for a triumphal arch (see H. P. L'Orange, *Der Spätantike Bildschmuck des Constantinsbogens*, p. 133, note 1).

Other medallions of L. Verus do not appear to be connected with a definite monument. Yet they do reflect in the general construction of a scene some tendencies of contemporary relief. The great frieze⁵ which once decorated the Forum of Trajan and Trajan's column show battle scenes in which the Romans and barbarians are shown in two zones almost separated by a diagonal line. The Romans are represented in the upper zone. The tendency towards a battle relief divided in two parts appears increasingly often on a number of sarcophagi dating to the end of the second century. They were probably influenced by state reliefs celebrating the wars of M. Aurelius.⁶ It is interesting to note that, as early as 165, medallions were struck in honor of L. Verus' eastern victories which show many similarities to these later sarcophagi.⁷ A specimen from the Panfilo Catacombs (PLATE IX, 4) gives the impression of a crowd of enemies separated by an almost diagonal line from the emperor and his followers. This is especially noteworthy because on these medallions the emperor is shown for the first time charging against several enemies. On earlier coin types only one barbarian is represented. Several later types, both on coins and medallions, show a mounted emperor spearing more than one enemy.⁸

F. Conclusions

The coin types which have been examined in this chapter are NEW and show representations very similar to those found in the con-

⁵ Strong, pp. 142 ff., figs. 88 ff.; M. Pallottino, in *Bull. Com.*, LXVI, 1939, pp. 17 ff.; R. Bianchi Bandinelli, *Storicità dell'arte classica*, pp. 208 ff.; P. G. Hamberg, *Studies in Roman Imperial Art*, pp. 169 ff.; M. Pallottino, *Arte figurativa e ornamentale*, pp. 89 ff.

⁶ See especially G. Rodenwaldt, in *Abhandlungen preuß. Akad. d. Wiss.*, 1935, no. 3, pp. 24 ff.

⁷ G., II, p. 49, no. 39, pl. 75, 8, 9. The specimen from the Panfilo Catacombs: J. M. C. Toynbee, *Roman Medallions*, p. 136, note 97, pl. XX, 3; cf. C. Serafini, in *Scritti in onore di B. Nogara*, p. 423, no. 10, pl. 65, 8.

⁸ Cf. also, for the age of M. Aurelius, the coin type struck at Alexandria in the name of L. Verus where Victory is represented riding and fighting four enemies (G. Dattari, *Numi Augg. Alexandrini*, no. 3744).

temporary official sculpture. There is reason to believe that several of them were actual reproductions of statues. This was suggested in the case of the standing Dacian on Trajan's coin (PLATE V, 1) which resembles the statues once standing in Trajan's Forum (PLATE V, 3). The type in which Trajan appears with his foot on a Dacian (PLATE VI, 3) has been compared with the statue of Hadrian found at Hierapytna (PLATE VI, 1). The presence of a base or the statuesque appearance of a figure helps bear out the theory of the sculptural origins of some coin types (PLATE VI, 2, 4).

Aside from these types which seem to be actual reproductions of statues, it seems that a direct influence from monumental sculpture can be found on others. Evidence has been provided by the reliefs of the arch of Pisidian Antioch for a type of Augustus (PLATE I, 3; PLATE II, 1, 2), by the Haterii relief for the Judaea Capta coins (PLATE III, 1, 2), by an Aurelian relief from the arch of Constantine for the Germania Capta coins of Domitian (PLATE IV, 1, 2) and by a relief in the Museo delle Terme for medallions of L. Verus and M. Aurelius (PLATE IX, 3, 5). Some new coin types seem to be abbreviations of larger narrative contexts, as has been pointed out in the investiture and homage scenes on Trajan's coins (PLATE VII, 1 ff.) or the types where the emperor appears riding and spearing his enemy (PLATE VI, 5; PLATE IX, 4).

It is impossible, however, to omit mention of another possibility, namely, that both the sculptural representations and the coin types might be derived from a common prototype, the much discussed, but so little known, triumphal painting. The relationship between the painting and the sculpture has been the object of several studies. Among others, those of Rodenwaldt, Lehmann-Hartleben and Hamberg consider this problem. It seems, however, that this problem is outside of the scope of the present study.

THE BARBARIAN AS AN ATTRIBUTE*

As has been pointed out above,¹ barbarians on coins dating from the end of the second century are increasingly small in size and appear as accessories to the larger figures of the emperor, Victory or other divinity.

"Small barbarians" are found in several contexts. In most cases the only thing represented other than the barbarians is a Roman authority. This figure, emperor or divinity, is usually represented as standing or walking. One or two, but seldom more, barbarians may appear seated or kneeling at his feet (PLATE VI, 2; PLATE XIII, 2, 4; PLATE XVII, 1). In another motif the Roman authority has his foot on the defeated enemy (PLATE VI, 3; PLATE X, 1; PLATE XIII, 3); this representation has its beginning with Domitian, appears on several coins of Trajan² and is especially frequent from the second half of the third century. The type representing a walking emperor or a divinity dragging a small enemy by the hair (PLATE X, 2) does not appear before the time of Constantine.³ Several types show a combination of these motifs. For instance, gold medallions of Constantine

* Part of the content of this chapter has been the subject of a paper read at the meeting of the Archaeological Institute of America in 1945 and appears, summarized, in *A. J. A.*, L, 1946, p. 287.

¹ See pp. 5 f.

² See pp. 16 f.

³ Mars and Victory are represented dragging a small enemy by the hair on coins of Maxentius (see Maurice, I, p. 188, no. VI; and p. 271, no. XVII). Also an emperor riding can be seen dragging a small enemy by the hair. But this motif is rare. It appears on medallions of Gallienus and Probus (G., I, p. 54, no. 31, illustrated in G., III, pl. suppl., 6; G., II, p. 120, nos. 43, 44, pl. 121, 10). It is interesting to compare these medallions with the republican type of A. Licinius Nerva (BMCR, I, p. 514, nos. 3999 ff., pl. I, 12, 13).

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show the emperor dragging one enemy by his hair and at the same time trampling down a second one⁴ (PLATE X, 3).

In all these motifs the barbarians appear as accessories to the Roman emperor or divinity not only because of their small size, but also because there is no relationship of action between the Roman authority and his enemy. That is, the emperor or god seems rather unaware of the presence of the barbarian even when he is represented dragging his small enemy by the hair. That no real action is intended is shown, for instance, by the above mentioned medallions of Constantine, on which the emperor is in the very difficult position of walking, having a foot on one enemy and dragging the other, all at the same time. In another instance, the barbarian appears seated or kneeling under the hoof of the emperor's horse (PLATE X, 4), apparently oblivious of the action.

It should be pointed out that there are two main classes of types showing the emperor riding. One shows him on a horse that is not galloping but pacing and the emperor is not fighting his enemy but seems totally unaware of him as on PLATE X, 4. On these coins the barbarian is usually of exceedingly small size. The "galloping-horse" series represents the barbarian in normal size⁵ (PLATE VI, 5; PLATE X, 5). The "pacing horse" motif appears on only a few coin types: those of Trajan,⁶ Caracalla, Gallienus, Carausius, Allectus, Probus and Constantine I (PLATE VI, 4; PLATE X, 4).

Small barbarians also appear, without taking part in the action, in multifiured scenes. This occurs especially on medallions but also on a few coins dating from the period of M. Aurelius to the end of the third century. For example, they are found in scenes in which one or sometimes two emperors appear with their following of soldiers,⁷ in

⁴ G., I, p. 17, nos. 20—22, pl. VII, 4.

⁵ On these types see p. 4.

⁶ On Trajan's type the barbarian is not exceedingly small.

⁷ For instance, on medallions of M. Aurelius and L. Verus (G., II, p. 43, 2, pl. 71, 3,4), on coins or medallions of Severus, Caracalla, Geta, Maximinus and Maximus, Gordianus III.

a few triumphal processions,⁸ occasionally in scenes of "adlocutio" and in multfigured scenes of "adventus."⁹ Finally, it should also be mentioned that on a few coin types of the third and fourth centuries small barbarians are represented in the exergue.¹⁰ In this case, the emperor or emperors appear in the center of the field.

It is evident that the small physical size of the barbarian is a device which emphasizes his abject position in contrast to the victorious emperor or divinity. This tendency was already apparent on some coin types of the first century A. D.¹¹ but does not appear in its full development until the time of Trajan. Under the reigns of Hadrian and Antoninus Pius there are only a few types with barbarians large or small. Under M. Aurelius and L. Verus both large and small barbarians are present. From the time of M. Aurelius and Commodus the small barbarian is much more frequent. There is hardly an emperor who does not have several coin types with small figures of barbarians either at or under the foot of the Augustus, the Caesar or Victory. The coins representing "small barbarian" figures increase in number during the third and fourth centuries and continue to the last of the Western emperors. Little by little the meaning of the type changes. At first the barbarian is a symbol of a people recently vanquished by the emperor. Later the connection with an actual victory is less often found. The legends which accompany the emperor or Victory are more frequently general in meaning: VICTORIA AVG, VICTORIOSO

⁸ See the medallions issued in the name of the two Philippi and Otacilia (G., II, p. 97, no. 4, pl. 109, 1), of Valerian (G., II, p. 105, nos. 5, 6, pl. 112, 8).

⁹ See the adlocutio in bronze medallions of Gallienus (G., II, p. 106, 1, 2, pl. 113, 4, 5; cf. L. Laffranchi, in *International Num. Congress*, 1936, p. 206, note 1). See pp. 44 f. for types showing barbarians, not as attributes, in "adlocutio" scenes. For the multi-figured adventus see the medallions in G., II, pp. 99 f., no. 3, pl. 109, 10 and G., I, p. 55, no. 1, pl. 27, 10.

¹⁰ See p. 69, note 5, and 56, note 3.

¹¹ As of Vitellius (BMC, I, pl. 64, 8, 9); gold and silver coins of Vespasian (BMC, II, pl. 7, nos. 13—15; idem, pl. 47, 1) with Victory setting a shield on a trophy and a mourning captive below; also some specimens of the type in which a Jewess appears seated to the right of a palm-tree and the emperor to the left of the palm as BMC, II, pl. 20, 10; see also the eight-denarius piece of Domitian (BMC, II, pl. 62, 3) and the bronze medallions with the same type (G., III, pl. 143, 7) (SEE PLATE XIII, I).

SEMPER, VICTOR OMNIUM GENTIVM, etc. It is well known that the change in legend accompanied the change in the concept of the triumph. Triumphs were no longer celebrated in order to commemorate a certain event. They were celebrated periodically and all races of barbarians were made to participate in them.¹² It is evident that the barbarian becomes the symbol of the emperor's victories in general, of his most celebrated virtue, the victorious power. Since the barbarian is the almost constant companion of nearly every emperor, it can be said that he really becomes the attribute of the emperor and his special goddess, Victory. The definition of the barbarian as an attribute is not a matter of interpretation. Without doubt the die-engraver consciously considered it so. For instance, in 183/184 two issues in silver were made by Commodus. In the first issue, we see the figures of Minerva (PLATE X, 6), Aequitas, Felicitas and Victory (PLATE X, 7) without any attribute. The second issue repeats several of the types of 183 but with something added which has the purpose, in Mattingly's words, "to bring out the special character of its figure."¹³ In this issue, Minerva has an owl at her feet (PLATE X, 8), Aequitas has a globe, Felicitas a modius or a prow. It is indeed significant that Victory is represented with a small captive¹⁴ (PLATE X, 9).

The symbolical value of the "small barbarian" as it appears in statuary groups has been set forth by several authors.¹⁵

¹² The beginning of the assimilation of the triumphs and the Vota may be traced back even to the period of the Severi. It is quite evident in the second half of the third century and in the age of Constantine. See A. Alföldi, in *Röm. Mitt.*, 49, 1934, pp. 96 ff.; Kaehler, col. 471; idem, in Winckelmann's Program, 96, 1936, p. 21.

¹³ BMC, IV, p. CLVIII.

¹⁴ For Victory on coins of 183 without the attribute, see BMC, IV, p. 708, no. 114; on coins of the second issue of 183/184 with the small barbarian, BMC, IV, p. 711, nos. 127, 128, pl. 94, 8. Minerva without the owl: BMC, IV, p. 706, no. 103, pl. 93, 11; with owl: BMC, IV, p. 709, no. 120, pl. 94, 4. Compare also BMC, IV, pl. 93, 14 with idem pl. 94, 5, etc.

¹⁵ Among these, the following should be mentioned: A. Loehr, in *Eranos Vindobonensis*, 1893, pp. 56 ff.; K. Lehmann-Hartleben-K. Kluge, *Die antiken Großbronzen*, II, pp. 85 ff.; G. Rodenwaldt, in *Jhb.*, 37, 1922, pp. 17 ff.; A. Grabar, *L'empereur dans l'art byzantin*, pp. 43 ff., pp. 125 ff.; H. Schoenebeck, in *Byzant. Zeitsch.*, 37, 1937, pp. 365 ff.

Many have also noticed the similarity between these representations and those on the coins. It is generally admitted that in statuary groups such as the one found at Hierapytna¹⁶ (PLATE VI, 3) there are, as on the coins, symbolical representations of the victory of the emperor over his barbarian enemies. In regard to sculpture there are several problems to be considered. Did representations of small barbarians appear frequently enough to warrant the use of the term "attribute"? It has been mentioned above that other divinities besides the emperor and Victory appear with the barbarian attribute. Did the same divinities appear with the same attribute on sculpture also?

That the "small barbarian" was taken over from sculpture by the die-engraver is certain, for two reasons. First, this type appears in its full development on the coins of Trajan which are reproductions of honorary statues of the emperor.¹⁷ Secondly, the appearance of the "barbarian-attribute" on the coins was preceded by some figures of barbarians of rather small size. This tendency had been present in sculpture also before the age of Trajan. A "small barbarian" is portrayed with Domitian in a group found at Olympia.¹⁸ In Cilicia, another fragmentary statuary group has been found. It shows an emperor and a kneeling captive woman at his feet. It is probably to be dated to the end of the first century A.D.¹⁹ It is likely that these statues had been preceded by other similar monuments.²⁰ It should be pointed out that the representations in which the enemy appears of small size have been generally called "oriental". Many similarities may be seen between the Roman representations and those in the art of the Orient, especially Egyptian, but an actual derivation of motifs from Oriental art can not be demonstrated. First of all, a difference in size between the more important figures and the minor ones is

¹⁶ See p. 17.

¹⁷ See pp. 16 ff.

¹⁸ Treu, *Bildwerke von Olympia*, p. 246, pl. LX, 3.

¹⁹ J. Keil-A. Wilhelm, *Monumenta Asiae Minoris Antiqua*, III. *Denkmäler aus dem Rauhen Kilikien*, p. 63, fig. 100, pl. 33.

²⁰ This is suggested by the figure of Armenia (or Parthia) seated at foot of the imperial throne in the "Grand Camée de France" (see for bibliography, *Catalogo Mostra Augustea*, II, p. 58, no. 19a).

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traceable even to classic Greek art.²¹ Reliefs portraying the gods and their adorants represent the latter as of smaller size.

In this connection, a passage of Plinius²² is worth mention. Plinius tells us that, after the victory over the Samnites, Spurius Carvilius made from their arms a large statue of Jupiter in the Capitol and "e reliquiis limae suam statuem fecit quae est ante pedes simulacri eius (sc. Jovis)". Obviously, Carvilius' image must have been much smaller than the one of Jupiter. The tendency to represent the vanquished smaller in size than the victor is present in mythological representations of the Hellenistic age, as in statuary groups of the labors of Herakles.²³ The motif most frequently linked with Oriental or Egyptian art is the one which shows the emperor with his foot on a barbarian, as in the group of Hierapytna.²⁴ Even on classical work, such as the Strangford shield, the warrior, commonly identified as Perikles, has his left foot on a fallen Amazon.²⁵ Nor can it be forgotten that a warrior appears with his foot on a defeated enemy in a group decorating an Etruscan candelabrum.²⁶ This group is in the Museo Archeologico in Florence and is probably to be dated to the second

²¹ See K. Lehmann-Hartleben, *Trajanssäule*, p. 79.

²² Plinius, N. H., XXXIV, 7.

²³ W. Amelung, in *Röm. Mitt.*, XX, 1905, pp. 214 ff.; cf. Helbig-Amelung, *Führer durch die Sammlungen klassischer Altertümer in Rom*, I, p. 109, no. 166. Hellenistic groups probably influenced the representations of the labors of Hercules on Roman sarcophagi such as the one in Villa Borghese (Strong, pl. LIX) another in Villa Torlonia (S. Reinach, *Répertoire des reliefs grecs et romains*, III, p. 340, 1—3), another in the British Museum (Reinach, op. cit., II, p. 476, 1). It would be interesting, in this connection, to investigate the meaning of other representations, as for instance, that of the winged monster supporting the throne of Demeter on coins of Demetrius I (see A. B. Brett, in *Amer. Num. Society Museum Notes*, I, 1945, p. 26, no. 18, pl. IX, 18) or the giant which appears as support in the throne of Zeus of Panamara in the frieze of the Hekateion at Lagina (A. Schober, in *Istanbul Forschungen*, II, 1933, p. 47, pl. XXVII, no. 201 and XXVIII, no. 202).

²⁴ B. Schweitzer, in *Jhb.*, 46, 1931, pp. 214 ff.; A. Grabar, *L'empereur dans l'art byzantin*, p. 127, note 2; G. Rodenwaldt, in *Jhb.*, 55, 1940, pp. 42 f.

²⁵ A. Picard, *La sculpture grecque*, II, pp. 313 f. and 393 f., fig. 132.

²⁶ G. Giglioli, *L'arte etrusca*, pl. CCXV, 6. In this group it is noteworthy that the victor holds his enemy by the beard.

half of the fourth century B. C. On coins of the later empire the motif of the emperor or Victory dragging a barbarian is frequent. This, again, can be traced back to the Amazonomachies of classical Greek art.²⁷ Therefore, it is clear that sculpture did not directly borrow these victory motifs from the Oriental or Egyptian arts. They were a result of the Roman conception of the emperor and the barbarian and can be traced back to classical Greek art.

The representation of the barbarian as a general symbol of victory rather than of a victory over a certain people probably took place earlier in the statuary than on the coins. On statues the reference to an actual victory is less pronounced than on coins since statues in many cases lack the commemorative purpose so many coins have, especially in the early empire. The barbarian as a symbol of victorious power is certainly already present in the statue from Hierapytna. To this statue, others are more or less related, for example, a fragment from Ramleh now in the British Museum,²⁸ a fragmentary statue at Pola,²⁹ a statue found at Kisamos,³⁰ and others.³¹ These statues, however, have generally been dated to the periods of Trajan and Hadrian. To succeeding periods belong a fragmentary group found at Chiragan and now in the Museum of Toulouse,³² a statuette in the Museum of Torino³³

²⁷ See for instance another group on the above quoted Strangford shield.

²⁸ A. H. Smith, *Catalogue of Sculpture*, III, no. 1172; cf. P. Bienkowski, in *Wiener Studien*, 34, 1912, p. 277.

²⁹ Bienkowski, op. cit., in note 28; B. Forlati Tamaro, in *Bollettino d'arte*, 24, 1931, p. 379, fig. 4.

³⁰ In the Museum of Candia (L. Savignoni, in *Monumenti Acc. Lincei*, XI, 1901, col. 305, pl. 25, 1; A. Hekler, in *Jahreshefte öst. arch. Inst.*, 19—20, 1919, pp. 232 f., fig. 161; G. Mancini, in *Bull. Com.*, 1922, p. 189, no. 76).

³¹ See a group found at Miletus (Th. Wiegand, in *Arch. Anz.*, XXI, 1906, col. 21; J. F. W. de Salis, in *Neue Jahrbücher f. klass. Altertum*, 1910, p. 121). A statuary group, formerly in Florence appears in S. Reinach, *Répertoire de la statuaire grecque et romaine*, II, 2, p. 577, no. 1 (cf. also S. Reinach, *L'album de Pierre Jacques*, pl. 75 bis).

³² E. Espérandieu, *Recueil général des bas-reliefs de la Gaule Romaine*, II, p. 58, no. 945; cf. S. Reinach, *Répertoire de la statuaire grecque et romaine*, III, p. 146, no. 5 and I, p. 361, pl. 654, 3.

³³ H. Dütschke, *Antike Bildwerke*, IV, p. 99, no. 195. This is dated by Bienkowski (loc. cit. in note 28, p. 43) to the third century A. D.

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and a few other examples.³⁴ Most of these cannot be accurately dated. A not very well known statuette in the Museum of Ostia³⁵ (PLATE XI, 1) shows a similar symbolical motif. With the emperor there is represented a small city wall, the symbol of the foreign cities he has defeated.

A famous monument of the tetrarchs shows that a continuity of the motifs representing the emperor with small barbarians existed in the official sculpture. On the arch of Saloniki, the four tetrarchs appear (PLATE XI, 2). The scene,³⁶ as Schoenebeck has already pointed out, is not a battle but a symbolical triumphal representation. Galerius is engaged in a duel with Narses which never actually took place. It is a symbolic motif borrowed from the triumphal art of Persia.³⁷ The three other warriors are certainly Galerius' colleagues. The figure on the far left is probably Maximianus Herculus because the figure of Hercules is visible on the shield behind him. The other warrior on the left could be Constantius since part of a lion appears on the fragmentary shield

³⁴ Statuettes of barbarians in bronze and the remains of a foot of a relatively large figure (certainly of an emperor or of Victory) are very probably derived from full size statues. These statuettes are studied by P. Bienkowski (*Les Celtes dans les arts mineurs*, pp. 55 f., figs. 98—100: cf. A. Blanchet, in *Revue Arch.*, 21, 1893, pp. 292 ff., pl. XIII). Possibly, the colossal bronze emperor at Barletta had a small barbarian under his foot (see J. Koch, in *Antike Denkmäler*, III, 1913, pl. XX, XXI; R. Delbrück, *Spätantike Kaiserporträts*, pp. 219 ff., pl. 116 ff., believes that the devil-snake is rather to be imagined under the emperor's foot). See also a fragmentary group in S. Ferri, *Arte romana sul Danubio*, fig. 107 and footnote on p. 104. A group at Langres (Espérandieu, op. cit., IV, no. 3248) shows a vanquished province kneeling and an emperor. However, their relative sizes are normal. An example from the minor arts is provided, for instance, by the silver shield of a signum in Neuwied from Niederbiber (S. Reinach, *Répertoire des reliefs*, II, p. 83, 2). See also A. Furtwängler, *Die antiken Gemmen*, Vol. II, p. 222, no. 12, pl. XLVI.

³⁵ G. Calza, *L'Antiquarium di Ostia*, p. 53, no. 58, pl. on p. 54. Possibly, the "remains of a column" in front of Minerva on a stele at Stockstadt (E. Espérandieu, *Recueil gén. des bas-reliefs de la Germanie Romaine*, p. 187, no. 298) are to be interpreted as remains of a city-wall.

³⁶ This is the relief on the northeastern side of the southwest pillar. See Kaehler, col. 449, no. 17 and especially K. F. Kinch, *L'arc de triomphe de Salonique*, pp. 22 ff., pl. VI; H. Schoenebeck, in *Bysant. Zeitsch.*, 37, 1937, pp. 361 ff., pl. IV.

³⁷ On this motif, see G. Rodenwaldt, in *Jhb.*, LV, 1940, pp. 53 ff.

behind him.³⁸ The three rulers all have small barbarians at or under their feet.

The first known example of monumental sculpture to show Victory with small barbarians belong to the period of the first tetrarchy. One of the reliefs in the Boboli Garden in Florence³⁹ shows Victory with her foot on a kneeling prisoner. One side of the base erected in the Forum for Diocletian's "vicennalia" of 303⁴⁰ represents two Victories holding a shield and each Victory has a small captive at her feet. Later, several examples of small barbarians with Victory are found on the pilasters of the arch of Constantine⁴¹ (PLATE XII) and on the base of the column of Constantine at Constantinople.⁴² The base of the column of Arcadius, also at Constantinople, had representations of both emperor⁴³ and Victory⁴⁴ with small barbarians. The tendency towards abstract and symbolical representations in the later empire is certainly general.⁴⁵ It is not surprising that the typical symbolical

³⁸ The figure of Hercules, the motifs of the eagle and — less frequently — the lion are found several times in the reliefs of the arch of Saloniki. Possibly, these emblems have in several cases a direct reference to the persons of the rulers rather than being merely symbols of the corps of troops who bore the names of "Iovii" and "Herculii."

³⁹ H. Kaehler, in *Winckelmannsprogramm*, 1936. The above mentioned relief is on pl. III. On the reliefs see also J. Sieveking, in *Röm. Mitt.*, 1937, pp. 74 ff.; H. P. L'Orange, *Der spätantike Bildschmuck des Constantinsbogens*, pp. 210f. The Boboli zoccoli possibly belonged to the "arcus novus" erected in Diocletian's reign. The arch is generally identified with the one which stood until 1491 near the church of S. Maria in Via Lata (see Kaehler, col. 394 f., no. 37). On Julio-Claudian reliefs possibly re-used for the decoration of this monument, see A. M. Colini, in *Atti Pontif. Acc. Arch., Rendiconti*, XI, 1935, pp. 41—61 and D. Mustilli, *Il museo Mussolini*, p. 190.

⁴⁰ Strong, pp. 317f., pl. LXVI; H. P. L'Orange, in *Röm. Mitt.*, 53, 1938, pp. 1—34, fig. 1, pl. I.

⁴¹ Strong, pl. LXVIII; H. P. L'Orange, *Der spätantike Bildschmuck des Constantinsbogens*, pp. 113, 115, 118 ff., 122 f., 125, 128 f., 130, 131 ff., pls. 24, 2; 25, 5; 26, 8; 27, 11; 28, 14; 29, 17; 30, 20; 31, 23.

⁴² R. Delbrück, *Antike Porphyrrwerke*, pp. 140ff., figs. 57—59, pl. 68.

⁴³ E. H. Freshfield, in *Archaeologia*, 72, 1921/1922, pl. 17; R. Delbrück *Consulardyptichen*, pp. 13 f., figs. 6—8.

⁴⁴ Freshfield, *op. cit.*, pl. 20.

⁴⁵ See G. Rodenwaldt, in *Jhb.*, 55, 1940, p. 34.

motif of the emperor or Victory with the barbarian attribute should be more popular on coins of the later empire⁴⁶ and that it should appear for the first time on reliefs on monuments as late as those of the tetrarchs. Of course, the motif of emperor or Victory with the barbarian as an attribute may have occurred on monumental reliefs before the period of the tetrarchy.⁴⁷ Unfortunately, there is a well-known gap in monumental sculpture in the third century.

Coin types have been mentioned which show the barbarian as an attribute of the emperor riding a pacing horse.⁴⁸ It has been pointed out that this motif is not very frequent compared to the more popular "galloping horse" type and that it is very likely that the first coin type showing the pacing horse motif was inspired by a statue of Trajan. Some of these coins show the legend ADVENTVS or PROPECTIO AVG. However, the motif, as already emphasized, is certainly not narrative but purely symbolical.⁴⁹ It is possible that these coins also, as does the one of Trajan, reflect the existence of statues of emperors with small barbarian under the hoof of the horse. This statuary motif certainly existed, for the well known passage of the "Mirabilia"⁵⁰ does not leave any doubt as to the presence of a small barbarian under the

⁴⁶ On two medallions, one of Constantine I, the other of Constantine II (G., II, p. 135, no. 19, pl. 131, 2; idem, II, p. 142, no. 20, pl. 134, 6), the barbarians are of no smaller size than any Roman would have been if represented in the same context. Also, they are an integral part of the scene. It is indeed significant that these medallions are conceived in a purely naturalistic style. Most medallions of the period illustrate the late tendency to stylization and calligraphism. (See J. M. C. Toynbee, *Roman Medallions*, pp. 171 f.).

⁴⁷ See below pp. 43.

⁴⁸ See pp. 18 and 26.

⁴⁹ Only a medallion type of M. Aurelius and L. Verus shows the emperor on a pacing horse in a narrative context, with barbarians of almost normal size (G., II, p. 45, nos. 2, 3, pl. 72, 2). This type is possibly to be related to those representations on official reliefs in which the emperor appears riding in a foreign country and receiving the homage of the natives, such as on the column of Trajan (K. Lehmann-Hartleben, *Trajanssäule*, pl. 41) or on one of the Aurelian reliefs in the Conservatori Museum (Strong, fig. 161).

⁵⁰ *Mirabilia*, 41.

hoof of the horse of the statue of M. Aurelius on the Capitol.⁵¹ Objections raised on technical grounds are by no means conclusive.⁵² Another famous statue, the so-called Regisole, had originally, in Giglioli's opinion, a small barbarian under the hoof of the horse.⁵³ This was possibly a statue of Severus. It was originally in Ravenna, transferred to Pavia during the Longobardic period and destroyed in 1796. In reproductions of the statue a small dog appears under the hoof of the horse. This was probably a mediaeval substitution for a small barbarian.

It is significant that the pacing-horse motif with the barbarian attribute, appears on only a few coin types. This probably indicates that it was not a common statuary motif.

Not only the emperor and Victory but also some other divinities appear on coins with small barbarians at their side or under their feet. For instance, we have Minerva on a type (PLATE XIII, 1) of Domitian.⁵⁴ Pax and Roma on coins of Trajan.⁵⁵ Sol appears for the first time with barbarians on coins of Aurelian⁵⁶ (PLATE XIII, 2), Jupiter on coins of Diocletian⁵⁷ (PLATE XIII, 3). Occasionally, we find types of this kind for Mars, Virtus⁵⁸ and Venus⁵⁹ (PLATE XIII, 4). The presence of the

⁵¹ See especially Loehr, op. cit.; K. Lehmann-Hartleben-K. Kluge, *Die antiken Großbronzen*, II, pp. 85 ff., pl. XXV with earlier bibliography; lately, M. Wegner, *Die Herrscherbildnisse in Antoninischer Zeit*, p. 190, pl. 22, 23.

⁵² See A. Rumpf, in *Philol. Wochens.*, 53, 1933, pp. 127 f. It is unnecessary to assume a physical contact between the hoof of the horse and the "... regem qui parve stature fuerat retro ligatis manibus" ("Mirabilia," loc. cit.).

⁵³ G. Q. Giglioli, in *Bull. Museo Impero Rom.*, XI, 1940, pp. 57 ff. and L. Laffranchi, in *Numismatica*, VIII, 1942, pp. 42 ff. ⁵⁴ See the medallions quoted on p. 27, note 11.

⁵⁵ See BMC, III, pls. 13, 5, 6; 28, 1; 29, 3—5; 33, 6; 36, 2.

⁵⁶ See MS., V, I, pl. VIII, 116, 123, 126, 129.

⁵⁷ See MS., V, 2, pl. XI, 8 (gold medallion).

⁵⁸ It is difficult in many cases to decide whether the figure represented is Mars, Virtus or the emperor. For instance, it is surely Mars in MS., V, 2, p. 23, no. 35.

⁵⁹ Venus, as *Victrix*, on coins of Caracalla (MS., IV, 1, p. 259, nos. 312a—d, pl. 13, 4). This is a result of the close relationship between Venus *Victrix* and Victory (see E. Pais, *Dalle guerre puniche a Cesare Augusto*, pp. 233 f.; J. Gagé, in *Revue historique*, 171, 1933, pp. 1 ff.).

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barbarian as an attribute on types with divinities can be explained in only one way, as a transfer of the attribute from the emperor. Victory has the barbarian as an almost constant attribute because she was associated with every emperor. It seems natural that the virtues of the emperor, such as Pax, should occasionally have the barbarian as an attribute. The gods are shown with the barbarian either because, like Mars, they were closely associated with all the emperors, or because they were at first closely connected with one single emperor, as was Sol with Aurelian and Jupiter with Diocletian.

It is well known that the Roman emperor took many of his emblems from the gods. However, sufficient attention has not been paid to the fact that the emperor himself influenced the iconography of the gods although this has been recognized in regard to the cuirass which Jupiter Dolichenus, Heron and other deities, Syrian and Egyptian, borrowed from the Roman emperor.⁶⁰ The influence of the ruler on the iconography of the gods is an age long trend. A cuirass may have been borrowed even from the Hellenistic ruler by some of these divinities. More significant for the present purposes is the fact that even in republican times the gods borrowed something from the triumphator, although temporarily. Hercules was honored in the Forum Boarium as Hercules Triumphalis and his statue, decorated with the triumphal insignia, was carried in the triumphal procession.⁶¹ The statue of Jupiter Capitolinus was clad with the triumphal costume at certain festivities.⁶² The next step is a statue of a god with permanent triumphal insignia. Moreover it is impossible to forget the widespread influence that triumphal art exercised on traditional

⁶⁰ See especially R. Paribeni, in *Bulletin Soc. Arch. d'Alexandrie*, no. 13, 1910, pp. 177 ff.; E. Breccia, in *Bull. Soc. Arch. d'Alexandrie*, no. 17, 1919, pp. 184 ff.; F. W. v. Bissing, *Denkmäler ägyptischer Sculptur*, pl. 121; idem, in *Festschrift Haupt*, 1926, p. 295; idem, in *Der alte Orient*, 34, 1936, pp. 17 ff.; F. Cumont, in *Syria*, I, 1920, pp. 183 f.; idem, in *Mélanges Syriens offerts à R. Dussaud*, 1939, I, p. 7; M. Rostovtzeff, in *Aegyptus*, 13, 1933, p. 510; V. Chapot, in *Mélanges Maspero*, II, pp. 225 ff.

⁶¹ Plinius, *Naturalis Historia*, XXXIV, 7; for Hercules triumphalis see especially E. Pais, *Fasti triumphales populi romani*, pp. XXXVII ff. and X.

⁶² See Lugli, *Centro*, p. 22.

mythological subjects. Some images of Nemesis treading down Hybris may have been influenced by the emperor with the barbarian.⁶³ The triumphal procession on official monuments certainly influenced some scenes of the triumph of Dionysos.⁶⁴ Influenced by the monuments celebrating M. Aurelius' wars, some representations of the Amazonomachy on sarcophagi and in statuary groups show some unusual and noteworthy elements.⁶⁵

⁶³ See A. Grabar, *op. cit.*, p. 127, note 2; cf. P. Perdrizet, in *Bull. Corr. Hell.*, 36, 1912, p. 249; idem, in *Bull. Corr. Hell.*, 1898, p. 599; B. Schweitzer, in *Jhb.*, 46, 1931, p. 175 ff.

⁶⁴ Lehmann-Hartleben-Olsen, *Dionysiac sarcophagi*, pp. 26 ff., fig. 7 and pp. 70 ff.; G. Cultrera, in *Boll. d'arte*, 1909, p. 9.

⁶⁵ P. G. Hamberg (*Studies in Roman Imperial Art*, p. 188) notices how the relief of a sarcophagus (?) in the Casino of the Villa Doria Pamphili (Rodenwaldt, in *Abhandlung. preuß. Akad. der Wissensch.*, 1935, no. 3, p. 24, pl. 8; see also G. Habich, *Die Amazonen gruppe des attalischen Weihgeschenks*, pp. 69 f.) shows both traditional elements of the Amazonomachy and elements of the Roman triumphal relief. The part played by the Amazons is not very clear. This relief was dated by Rodenwaldt to the late Antonine period. On another Antonine monument, an Amazon appears as the enemy of a barbarian. This is the statuary group found at Anzio, now in the Terme Museum (PLATE XIII, 5). See *Boll. Studi Medit.*, 3, 1932, pl. 4, 2; *Mostra d'arte antica*, 1932, pl. 18; A. Schober, in *Jahreshefte öst. arch. Inst.*, 28, 1933, pp. 105 f., fig. 38; B. Schweitzer, in *Jhb.*, 51, 1936, pp. 158 ff., fig. 3). A. Schober (*loc. cit.*) suggests that it represents an Amazon transformed into the Roman Virtus, riding over a barbarian. B. Schweitzer (*loc. cit.*) rightly notices, however, that the Amazon is wounded and, therefore, does not appear as a victor. A satisfactory explanation of the fact that the Amazon appears as the enemy of the barbarian has not yet been given. Evidently, a change in the traditional concept of the Amazonomachy occurred at some time in Rome. According to this, the Amazons did not necessarily represent the barbaric element. It is rather tempting to advance an hypothesis. Might not this change be related to the one emperor who considered himself to be the friend of the Amazons, nay, almost an Amazon? Dio (73, 15, 3 and 20, 2) relates that Commodus took the name of Amazonius and gave the name of Amazonius to the month of December. He also required that the senators, when he took part in the spectacles of the arena, should shout "always you win, oh Amazonius." This is mainly confirmed by the author of the *Vita* (XI, 9), who connects the name of Amazonius to Commodus' passion for his concubine Marcia "quam pictam in Amazone diligebat, propter quam et ipse Amazonico habitu in arenam Romanam procedere voluit." Commodus' Amazonian sympathies (see also *Vita Albini*, II, 4) are illustrated by extant monuments; the well known bust in the Conservatori (Strong, fig. 233), the medallions showing the jugate obverse portraits of Commodus and an Amazon (certainly Marcia),

The assumption that the transfer of the barbarian attribute from the emperor to gods associated with him took place in sculpture, is, therefore, logical and several monuments confirm this theory. An important class of these monuments belongs to provincial art. A statuary group found at Jioux,⁶⁶ now in the Museum of Limoges shows Jupiter standing with his hand on the head of a small prisoner (PLATE XIV, 1). The group has been rightly interpreted by Delage⁶⁷ as a representation of the emperor in the guise of Jupiter. The group is certainly connected with the well-known "Juppitergigantensäulen".⁶⁸ There is no doubt that the similarity between coin types

while a pelta is represented below (G., II, pls. 85, 9, 10; 86, 3; 87, 5). Another medallion of Commodus has an Amazon standing in front of her horse (G., II, p. 71, no. 177, pl. 89, 9 cf. J. M. C. Toynbee, *Roman Medallions*, p. 144 and note 175). The connection of the changed conception of the Amazonomachy with Commodus is merely an hypothesis. There are certainly difficulties. For instance, a group in the Galleria Borghese shows an Amazon riding over two warriors (W. Helbig-W. Amelung, *Führer durch die öffentlichen Sammlungen klassischer Altertümer in Rom*, II, p. 253, no. 1565 with earlier bibliography; Schober, op. cit.; Schweitzer, op. cit.; Arndt-Amelung, *Einzel aufgenommen*, nos. 2779 ff.). One of them is certainly a barbarian. However, this group which is greatly restored and worked over cannot be dated. Another group of Amazonomachies shows influence from the triumphal art. On a group of Roman sarcophagi, one of the Amazons appears in the attitude of the "triumphator" (See R. Redlich, *Die Amazonensarkophage des 2. und 3. Jahrhunderts*, *Schriften zur Kunst des Altertums*, IV, 1942, p. 36 ff.; C. Robert, *Die antiken Sarkophagreliefs*, nos. 80, 79, 84). These sarcophagi are dated by Redlich to ca. 180.

⁶⁶ E. Espérandieu, *Recueil gén. des bas-reliefs de la Gaule*, II, pp. 384 f., no. 1581 (with earlier bibliography); F. Delage, in *Bulletin Soc. Arch. et Hist. du Limousin*, 1932, pp. 219 ff., fig. on p. 222.

⁶⁷ Delage, op. cit., p. 234.

⁶⁸ On these monuments, see especially S. Ferri, *Arte romana sul Reno*, pp. 79 ff., pp. 216 ff. and passim. The hypothesis has been advanced that these groups might be explained as victory monuments erected in honor of the Roman emperors and their victories over the barbarians. The anguipeds would then be symbols of the barbarians (F. Haug, in *Mainzer Verbandstag*, 1903, Bericht, pp. 52 ff.; A. Riese, *Die Gigantensäulen*, pp. 30 ff. and others). The theory that these monuments commemorate particular victories has been generally refuted (see especially F. Hertlein, *Die Juppitergigantensäulen*, pp. 64 ff.). They were probably intended as homage to the major local deity and at the same time to the Roman emperor. On the syncretism of local cults of the western provinces with official religion, see especially M. Rostovtzeff, in *Journ. of Rom. Studies*, 13, 1923, pp. 91 ff.; Bober, *Studies in Roman Provincial Sculpture*, ms. dissertation, New York University, 1946, pp. 171 ff.

showing divinities with the barbarian attribute and the group of Jioux is great. It is logical to assume that, however deeply rooted in local beliefs the conception of the god-emperor as vanquisher might be, the origin of the motif is in the official art of Rome. The Jupiter of Jioux is not an isolated monument. Other remains of similar statuary groups were found in Gaul.⁶⁹ Mars appears with a small barbarian at his feet in a relief in the Museum of the Saalburg⁷⁰ (PLATE XIV, 2). A relief with the figure of Minerva might also be mentioned in this connection.⁷¹ Some indications as to the existence of representations of gods with the "barbarian attribute" come from the minor arts. A statuette in the Louvre shows Roma (?) with two small barbarians.⁷² The great Celtic god appears trampling on a figure possibly a barbarian in a sceptre in Cambridge.⁷³ The personification of Treviri is shown with a small captive in the Chronograph of 354⁷⁴ (PLATE XV).

Although the barbarian as an attribute of the gods is relatively frequent on coins it is only sporadic among extant works of art. Therefore, it cannot be assumed that any coin type showing such motifs was inspired by a monument of the official sculpture. How invalid such an assumption would be is shown by the coin types of Aurelian. It is generally admitted that several of the coins of this emperor give the image of the cultus statue in the new temple

⁶⁹ See the list in Delage, *op. cit.*, p. 227. The monuments mentioned by Delage are (minus an item where the small figure is an anguiped rather than a barbarian): Espérandieu, *op. cit.*, X, no. 7502; *idem*, II, no. 1237; *idem*, II, no. 1249; *idem*, II, no. 1197; *idem*, VII, no. 5772 and also some terracotta figurines.

⁷⁰ E. Espérandieu, *Recueil etc. Germanie*, p. 39 f., no. 50.

⁷¹ In the Museum of Miltenberg (Espérandieu, *op. cit.*, p. 129, no. 194). Only the head of Minerva's enemy is represented.

⁷² S. Reinach, *Répertoire de la statuaire grecque et romaine*, II, p. 272, no. 7 (from the Serapaeum of Memphis).

⁷³ Rostovtzeff, *op. cit.*, pl. III, 1. See also a sardonix vase in the Berlin Museum with Venus Victrix seated near a trophy with a prisoner (A. Furtwängler, *Die antiken Gemmen*, I, p. 337).

⁷⁴ Strzygoski, "Die Calenderbilder des Chronographen vom Jahre 354," *Jhb.*, *Ergänzungsheft* I, 1888, p. 31, pl. VII.

dedicated to Sol.⁷⁵ Sol appears with one barbarian-attribute on some coins, with two on others. Some coin types show Sol without any attribute.⁷⁶ Evidently, the barbarian must be an addition of the die-engraver. Without doubt, the barbarian as an attribute of the emperor appears more frequently on coins than in other arts, because the die-maker limited by his medium would naturally choose a symbolical device. The barbarian attribute was the most economical way of depicting the emperor as "semper invictus"⁷⁷ or of pointing out the association of the emperor and a divinity.⁷⁸ As in the case of other attributes,⁷⁹ the die-maker might allow himself a certain amount of liberty in depicting the barbarian. He might add an attribute whenever he wanted to emphasize one of the aspects of the emperor or a god, or whenever purely technical reasons demanded this addition.⁸⁰

⁷⁵ E. Strong, *Art in Ancient Rome*, II, p. 169.

⁷⁶ See MS., V, 1, pl. VIII, 114, 116, 123, 126, etc.

⁷⁷ This is the reason for the appearance of the small barbarians in multfigured scenes (see above p. 26). The victorious power of the emperor had to be celebrated to some extent in monuments not directly connected with a victory. For instance, on the arch of the Argentarii (M. Pallottino, *L'arco degli argentari*, 1946) Parthian prisoners appear on the West side. It seems natural that on a coin, which is a complete monument by itself, the victorious power of the emperor should be symbolized by the addition of his attribute. The small barbarians in the exergue of some coins (see p. 48) are to be explained in the same way. They bear a certain resemblance to some reliefs where the barbarian prisoners are relegated to a separate lower zone as in the base of the obelisk at Constantinople (Cf. p. 48, note 32) or in the cameo in Vienna (Strong, fig. 57) or in the "grand camée de France" (Strong, fig. 58).

⁷⁸ See for other solutions of this problem E. Kantorowicz, in *Art Bulletin*, 1947, pp. 82 f.

⁷⁹ See p. 1.

⁸⁰ As on the issue of 183/184 examined above (p. 28).

III

THE SECOND AND THIRD PERIODS: THE TRADITIONAL TYPES

The investigation of the barbarian attribute leads to some conclusions regarding another of the problems with which this study is concerned. This problem is the significance of the "traditional" types. In other words, when the die-engraver repeats motifs already well known because of their appearance on earlier coins, is this a purely numismatic process without any relationship to sculpture? That this is not the case, is partly implicit in the general characteristics common to both coins and sculpture.¹ It has been observed that several of the most common motifs of the coins — considering them in a general way, without attention to variants — were very common in sculpture. It was evident, for instance, in the motif showing a prisoner or prisoners at the foot of a trophy. The extant monumental remains of Rome showing this motif are scanty. Prisoners at the foot of a trophy appear on the zoccoli of the arch of Constantine.² A monumental trophy with a barbarian from the time of Domitian is still extant.³ There is no doubt that these motifs were extremely frequent in the monumental sculpture. Their use as decorations of the attic on several arches is testified by the representations of these monuments on coins and reliefs.⁴ Outside the city of Rome prisoners at the foot of a trophy

¹ See pp. 3 ff.

² Illustrations in H. P. L'Orange, *Der spätantike Bildschmuck des Constantinsbogens*, pls. 24, 1; 27, 12; 28, 13; 31, 24.

³ See p. 13.

⁴ A relief in Stockholm (G. Rodenwaldt, *Kunst der Antike*, pl. 651) presents an arch with an equestrian statue and a trophy with a crouching prisoner on the attic. The relief reproduces the same arch which appears on coins issued by Claudius in the

are still visible on triumphal arches and in reliefs which once decorated them,⁵ and some fragmentary monumental trophies are still extant.⁶ It is unnecessary to recall how widespread these motifs are in works of art of all periods such as sarcophagi, cuirasses of imperial statues, reliefs and items from the minor arts. They were used as decorations of the capitals of columns also.⁷ It may be concluded that the continuity of these motifs on coins indicates a similar continuity in the monumental official sculpture. Furthermore, the study of the barbarian attribute leads to the conclusion that such a continuity may be assumed in cases where extant remains, ancient reproductions of the monuments, products of sculpture, or of the minor arts in general are not as plentiful. Another conclusion, too, may be reached, namely, that a coin with an already known motif indicates that the motif was still in the living "répertoire" of the monumental art at the time the coin was issued.

This study of the traditional types is especially interesting in the

name of Drusus (BMC, I, p. 178, nos. 95—98, pl. XXXIII, 11, 12). It is probably the arch erected in honor of Drusus the elder on the Via Appia (See Kaehler, col. 382, no. 12, who connects the arch of the relief with other coins). On this problem, and other arches represented on coins of Claudius, see also Kaehler, col. 384, no. 19, and F. Castagnoli, in *Bull. Com.*, LXX, 1942, pp. 66 ff. On the relief of M. Aurelius with the tetrapylon of Domitian see above p. 13. Prisoners at the foot of trophy also appears on the triple arch on coins of 100 A. D. (cf. p. 15, note 6) and on the arch on sestertii of 104/111 (BMC, III, p. 177 f., nos. 842 ff., pl. 31, 7—9; cf. Strack, I, p. 114, no. 387, pl. VI and Kaehler, col. 387, no. 26).

⁵ As on the arches of St. Remy, Orange, Carpentras, Tripoli, Leptis Magna and on arches in Italy. The reliefs in Torino (see G. Bendinelli, in *Torino, Rassegna Mensile della città*, XIII, 1933, no. 11, pp. 3 ff., fig. 12; cf. Kaehler, col. 413, no. 27) originally belonged to an arch. See also Sangallo's drawing of the arch at Malborghetto (Rossini, *L. Gliarchi trionfali, onorari e funebri*, pl. XIV.) Several friezes, such as the one in Bologna (M. J. Macrea, in *Anuarul Institutului de studii clasice*) originally belonged to arches.

⁶ See the trophy of La Turbie (N. Lamboglia, *Il trofeo delle Alpi* and further bibliography in *Catalogo Mostra Augustea*, II, p. 63, no. 44), of St.-Bertrand-de-Comminges (Ferri, *Lugdunum Convenarum*; A. Picard, in *Comptes rendus de l'Acad. des inscriptions*, 1933, p. 138) and that of Adamklissi (E. Strong, *Art in Ancient Rome*, II, p. 86).

⁷ For representations of trophies, see E. Caetani Lovatelli, in *Bull. Com.*, 28, 1900, p. 241; K. Woelcke, in *Bonner Jahrbücher*, 120, 1911, pp. 158 ff.; M. J. Macrea, op. cit.

second and third periods in the history of the coin types showing barbarians. It has been noticed⁸ that from the age of M. Aurelius and particularly from the second part of his reign, the period of his joint rule with Commodus, traditional and symbolic types are the almost exclusive rule on the coins, and that only on the medallions is a certain variety of representations to be noticed. In the light of the observations made on the traditional types, it seems impossible to deny value to the coin types as aids in understanding the history of sculpture even at this time when they are more or less standardized. It seems indeed that the coins may give a lead in the study of the symbolic motifs. Some indications as to the general trend of the more complicated narrative scenes may be given by the medallion types.

The next problem is whether in the second and third periods the new coin types indicate the existence of a more or less contemporary monument. This seems very probable indeed for the age of Severus but after Severus it has not been possible to show a definite connection.

Some especially important new coin types of the second and third periods should be discussed although the connection of most of them with possible monuments is *purely hypothetical*.

Several new types appear on coins of Severus, Caracalla and Geta. It is in this period that the definite appearance of a motif frequent on coins of the third century takes place. This is the one depicting two Victories holding a shield and two seated prisoners below under the shield. (PLATE XVI, 1). It appears on a denarius of Caracalla struck in 201/206.⁹ On earlier types only one prisoner is represented.¹⁰ It is probable that a monument of the age of S. Severus provided the

⁸ See p. 5.

⁹ MS., IV, 1, p. 233, no. 146; see for illustration Trau Hess Sale Catalogue, 1935, pl. 29, no. 2248. In this coin, the half figure of Caracalla is visible in the background. The same motif, without the emperor, appears on the following coins of this period: MS., IV, 1, p. 199, no. 796; idem, p. 201, no. 808; idem, p. 288, nos. 465a, b, pl. 15, 9 (PLATE XVI, 1); idem, p. 202 no. 818; idem, p. 339, no. 167.

¹⁰ See medallions of M. Aurelius and L. Verus: G., II, p. 33, no. 48, pl. 62, 9; idem, p. 34, nos. 54, 55, pls. 63, 5 and 64, 1. The motif, with an altar instead of the palm-tree, is present as late as on coins of the period of Constantine.

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model. There is still extant the base of a column of Diocletian, erected in the Forum, which shows a similar motif.¹¹ Another motif appears for the first time on coins of S. Severus and Caracalla, that of Victory leading by the hand a small figure of a barbarian, apparently a child¹² (PLATE XVI, 2). No attempt had been made before of translating one of the elements of the sculptural narration of a war into the language of the coins, such as the sparing by the Romans of young barbarians while their elders are led into captivity or killed. Motifs of this kind appear also in the monumental sculpture of this period.¹³ Sestertii of Caracalla and Geta show a new kind of personification of Britannia.¹⁴ She is standing with her hands tied behind her back.

The coinage of Probus deserves special notice. A great variety is noticeable on both coins and medallions as far as traditional types are concerned. Several medallions and coins show in interesting scenes the emperor riding and fighting against several enemies.¹⁵ It may be assumed that monumental sculpture flourished to a certain extent in this period. Some new elements are noticeable in Probus' types. Barbarians appear in scenes of "adlocutio" (PLATE XVI, 3). They are part of the representation and not merely attributes as on earlier numis-

¹¹ For this base, see p. 33 note 40. The motif appears on sarcophagi since the middle of the second century (Lehmann-Hartleben-Olsen, *op. cit.*, p. 77).

¹² MS., IV, 1, p. 121, no. 237, pl. 6, 22; *idem*, p. 129, no. 302; *idem*, p. 236, no. 172.

¹³ On the arch of the Severi at Leptis Magna (R. Bartoccini, in *Africa Italiana*, IV, 1931, pp. 101 ff., figs. 70, 77), a Roman soldier is leading by the hand a young barbarian, while older captives are carried on a ferculum (Cf. Bober, *The Sculptures of the Arch of S. Severus at Leptis Magna*, ms. thesis, New York University, 1943, p. 35 and p. 48). The same idea appears on the lid of a sarcophagus in Mainz (G. Rodenwaldt, in *Antike Denkmäler*, IV, 1929, pl. 41).

¹⁴ MS., IV, 1, p. 286, no. 451, pl. 15, 1; *idem*, p. 291, nos. 481 a, b; *idem*, p. 291, nos. 483 a—e; *idem*, p. 288, no. 464; *idem*, p. 342, no. 186. See on this type J. M. C. Toynbee, *Hadrianic School*, p. 64, pl. XII, 3 ff.

¹⁵ See, for instance, MS., V, 2, p. 46, nos. 283—285 (illustrations in *Hamburger Sale Catalogue*, 1925, nos. 1555, 1556); G., III, pl. 157, 5, 6. For the medallion G., II, p. 120, nos. 43, 44, pl. 121, 10; cf. the earlier one of Gallienus G., I, p. 54, no. 31, ill. in G., III, pl. suppl., 6.

matic representations.¹⁶ It is noteworthy that up to this time no sculptural representation is known in which barbarians appear in such a context. Also, a new kind of scene of homage occurs (PLATE XVI, 4). Four small barbarians appear two on each side of the standing emperor, on coins inscribed PACATOR ORBIS or VICTORIOSO SEMPER.¹⁷

The notable battle scene on the 5-aurei piece of Numerianus¹⁸ and the great lead plaque in Paris¹⁹ may possibly be connected with sculpture or painting. On the plaque which is probably a proof of the reverse of a large gold medallion from the time of the first tetrarchy, two emperors appear in the act of giving presents to several barbarians.

Antoniniani of Numerianus show the ruler standing between two captives²⁰ (PLATE XVII, 1). The legend reads VNDIQUE VICTORES. Accordingly, the barbarian on the left has the traditional Oriental pointed cap. The barbarian on the right has the traditional Northern characters. The upper part of his body is naked and he is bareheaded. This is obviously a symbolical representation of the emperor as vanquisher of the barbarians of all races. The details of dress and physical appearance are not very clear on coins of the later empire. Such a sharp difference between two barbarians, is, therefore, seldom found on the same coin. But all the other examples we know appear

¹⁶ Probus' types with barbarians in "adlocutio" scenes: MS., V, 2, p. 78, no. 580 = G., I, p. 9, 1; illus. in H. Cohen, *Description historique des monnaies frappées sous l'empire romain*, 2nd edition, VI, p. 255; MS., V, 2, p. 51, nos. 320—322; G., II, pp. 115 f., nos. 1—3, pl. 119, 1. Barbarians as attributes appeared before on bronze medallions in "adlocutio scenes" of Gallienus (G., II, p. 106, 1, 2, pl. 113, 4, 5; cf. p. 27, note 9 above). Barbarians appear later again, taking part in the action, on coins of Constantius Chlorus (Cohen, op. cit., VII, p. 58, 1) Maxentius (Maurice, I, p. 271, no. 20) and Constantine (A. Alföldi, in *Journal of Rom. Studies*, 22, 1932, p. 19, 1, pl. II, 21).

¹⁷ MS., V, 2, p. 32, no. 136, pl. II, 1; idem, p. 80, no. 591; idem, p. 33, nos. 143 f., ill. in Naville Sale Cat., 1938, pl. 19, 466; MS., V, 2, p. 41, no. 224. Cf. the type of Maxentius where Victory appears between six kneeling barbarians (Maurice, I, p. 271, XVIII).

¹⁸ G., I, pl. 4, 7, p. 11, no. 1; also in bronze (G., II, p. 123, no. 12).

¹⁹ See J. M. C. Toynbee, *Roman Medallions*, p. 67, note 71 (with earlier bibliography), pl. IX, 7.

²⁰ MS., V, 2, p. 196, nos. 422, 423.

on coins of the first half of the fourth century.²¹ The tendency to represent both Northern and Oriental barbarians on the same monument is apparent in the later empire, as, for instance, in the Constantinian sculptures of the arch of Constantine.²² Special mention should

²¹ The difference is sometimes apparent only in some of the specimens of a coin. See the types of Constantius Chlorus and Galerius with the legend *UBIQUE VICTORES* (A. B. Brett, in *Num. Chron.*, 13, 1933, p. 330, nos. 127, 128, pl. XXV, 18, 19), of Crispus with the legend *PRINCIPI IUVENTUTIS* (Maurice, I, p. 319, no. VI, pl. XX, 14); the specimen of the *VICTOR OMNIUM GENTIUM* of Constantine I (Maurice, I, p. 463, no. XIII, 1, 2) illustrated in Trau Hess Sale Cat., 1935, pl. XLV, 3949; also G., I, p. 16, no. 19, pl. VII, 2, 3; G., II, p. 133, 1; G., II, p. 141, nos. 7—9, pl. 133, 9, 10; Hirsch Weber Sale Cat., 1909, no. 2641, pl. 47.

²² This is also apparent in the great Ludovisi battle sarcophagus (Strong, fig. 200; Paribeni, op. cit. (on p. 22, note 3) p. 119, no. 178; G. Rodenwaldt, in *Antike Denkmäler*, IV, 1929, pp. 61 ff. pl. 41; P. G. Hamberg, *Studies in Roman Imperial Art*, pp. 181 ff., etc.) illustrated PLATE XVI, 6. It has been rightly recognized that the battle represented there does not refer to a specific historic event (see especially Hamberg, loc. cit.) It celebrates the general as "victor omnium gentium" or (cf. the type of Numerianus, PLATE XVII, 1) as "undique victor." Barbarians of both Oriental and Northern type are represented on the sarcophagus. The date of the sarcophagus is uncertain. The most widely accepted date is the second quarter of the third century A. D. Later periods as those of Gallienus (A. Della Seta, *I monumenti dell'antichità classica*, p. 230, fig. 535; L. Kjellberg, *Grekisk och Romersk Konst*, p. 326) and of Claudius II (R. Paribeni, *Optimus Princeps*, II, p. 82 f.) have also been proposed. It seems that the coins point to a rather late date for the Ludovisi sarcophagus and not only because of similarities in the general idea. On the Ludovisi sarcophagus, on the left, there is a group of a Roman soldier and a barbarian. The Roman grasps the prisoner by the bearded chin. This recalls a similar detail found on a type of Maximinus Daza and Severus II struck at Siscia in 305/308. Here the ruler is represented dragging a prisoner. Another barbarian is seated on the ground. Instead of dragging the barbarian by the hair as usual in representations of this kind, the emperor is holding his enemy's beard (PLATE XVI, 5); cf. Maurice, II, p. 297, XI, 1, pl. IX, 8). Furthermore, on the sarcophagus there is a lack of feeling for the organic structure of the figure. This is evident in the figure of the soldier which has been mentioned. The warrior's limbs appear strangely dislocated. The same lack of "corporeity" is apparent on many coins of the end of the third century. It is especially noticeable on coins of the fourth century and also on the type of Maximinus Daza and Severus II mentioned above (PLATE XVI, 5). Also, the general on the sarcophagus has his right arm and hand extended in a gesture of triumph (and prayer (?) see A. Alföldi, in *Pisciculi F. J. Dölger dargeboten, Antike und Christentum*, Ergänzungsband I, p. 13; H. P. L'Orange, in *Arch. Ans.*, 1936, p. 604). The same gesture is found in reliefs of the second century A. D. (See G. Rodenwaldt, in *Jhb.*, 55, 1940, p. 16 and note 4 and also a

be made of the well known group of bronze coins with the legend FEL TEMP REPARATIO, issued by Constantius II, Constans, Constantius Gallus and Julianus.²³ In Mattingly's opinion they were issued to celebrate the eleventh centenary of Rome in 348 A. D.²⁴ Several of these coins show barbarians on the reverse. Despite several variants, there are four main types: A) a warrior standing and spearing (PLATE XVII, 2) a horseman; B) a warrior leading a barbarian out of a hut; C) the emperor standing with two captives; D) the emperor on horseback spearing two enemies. Type A was struck by all the above mentioned princes. B, C and D by Constans and Constantius II. Two of these types, A and B, are new. On C two barbarians appear on one side of the standing emperor. This is a variation from the usual schemes showing the emperor with a barbarian on either side. Type A is perhaps the most interesting, because although the motif can be traced back to Greek representations of the Amazonomachy, it is rare in Roman sculpture. As for type B, the motif of a Roman leading a barbarian by the hand is not new,²⁵ but the addition of the hut and the tree is. The figure is certainly a barbarian because on several specimens the traditional barbaric features such as beard and trousers are clearly visible. Therefore, the scene could be interpreted as the symbolic representation of one of the consequences of victory, frequently mentioned by later writers. Barbarians were often forced to

marble panel in the Museo Capitolino, H. Stuart Jones, *The Sculptures of the Museo Capitolino*, p. 49, no. 3, pl. 9) and on sarcophagi with hunting or battle scenes of the third century. However, this gesture of triumph is more frequent on monuments of the end of the third century and later periods (cf. also the equestrian statue of a boy in the Museo delle Terme, Photo Anderson, no. 40839, possibly of the late third century). Several emperors are represented on the coins with their arm and hand in the same attitude as the general in the sarcophagus. Among those, also Constantine I and Licinius (Maurice, I, p. 215, XIII, 1, 2, pl. XVIII, 4). Perhaps, the Ludovisi sarcophagus might be dated at the end of the third century or the beginning of the fourth.

²³ See especially Mattingly, in *Num. Chr.*, Fifth Series, 13, 1933, pp. 182 ff.

²⁴ This theory has been accepted by J. W. E. Pearce (in *Num. Chr.*, 6th Ser., I, 1941, p. 90 and J. Gagé, in *Mélanges Cumont*, p. 151.

²⁵ See p. 44 above.

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settle within the boundaries of the empire in order to cultivate the soil. The "Panegyricus" of Constantius is very illuminating in this respect.²⁶ That the coin type under consideration is related to those forced migrations, is shown by the hut and the tree. They are an abbreviation of a whole landscape and indicate the woods and the huts where the barbarians lived.²⁷ The Roman warrior is leading the barbarian out of his home to his new place in the Roman empire. Perhaps, the whole group of these coins with the legend FEL TEMP REPARATIO could be connected with some monument erected for the eleventh centenary of Rome.

Another type of the fourth century is found on solidi of the age of Valentinian and Theodosius, with the legend VOTA PVBLICA.²⁸ Two seated emperors are shown full-face (PLATE XVII, 5). On the coins issued in the western mints, no barbarian is represented. On those issued at Antiochia,²⁹ Constantinople³⁰ and Nicomedia³¹ two barbarians appear as attributes at the feet of the emperors, or in the exergue.³² The

²⁶ *Panegyrici latini*, ed. Baehrens, VIII, 1, 4; 21, 1, 2; and especially 8, 4 and 9.

²⁷ Compare, for instance, the landscape and buildings in several scenes of the column of Trajan (K. Lehmann-Hartleben, *Trajanssäule*, pl. 30) and on the column of M. Aurelius (Petersen, op. cit., no. CX). The shape of the hut on the coins is very similar to those depicted in a great number of Christian sarcophagi showing the Good Shepherd. Migrations of the barbarians have been represented also in the column of Trajan, of M. Aurelius, on the arch at Saloniki (See H. Schoenebeck, in *Byzant. Zeitsch.*, 37, 1937, p. 364).

²⁸ These solidi are collected by J. W. E. Pearce, *The Roman Coinage from A.D. 364 to 423*, p. 14, no. 16; p. 18, no. 20; p. 44, no. 20; p. 69, no. 55; p. 85, no. 6; p. 91, no. 15. See also J. W. E. Pearce, in *Num. Chr.*, Fifth Series, XX, 1940, p. 146; A. Alföldi, *A Festival of Isis*, p. 53.

²⁹ For illus. see Hirsch Sale Cat., XXIX, 1910, pl. XXXV, 1506.

³⁰ For illus. see Naville Sale Cat., IV, 1922, pl. VIII, 220; Basel Münzhandlung Sale Cat., VI, 1936, pl. 26, no. 2061.

³¹ For illus. see Basel Münzh. Sale Cat., VI, 1936, pl. 26, nos. 2054, 2062.

³² For the meaning of the barbarians in the exergue, see p. 40, note 77. The VOTA PVBLICA type make it plausible to assume that the barbarian attribute was a simplified way of expressing the emperor's victorious power which in monuments of other kind was celebrated in independent scenes or in the lower zone of some reliefs. It should be remembered that the date proposed by Delbrück for the base of the obelisk at

reason for this difference is difficult to understand. It is certainly to be studied in connection with analogous cases found on coin types not pertaining to this paper.

CONCLUSIONS

As a result of this study it has been possible to reach several conclusions both as to the coins and as to their usefulness in the study of Roman sculpture. Many coin types belonging to the first two centuries of the empire which were entirely new or which showed important new elements indicate that a more or less contemporary monument of the official sculpture of the city of Rome served as an original.¹ This is a point in support of the "theory of the new types." To distinguish whether a coin type is new or to distinguish a new element in a traditional type involves a long analysis. This analysis, however, has proved to be profitable. For the period after Septimius Severus no definite evidence could be found. It has been possible to show that traditional types on coins are an indication that the motif in question was still in the living "répertoire" of the monumental sculpture at the time the coins were issued.

In the course of our analysis of coin types it has been possible to identify a new symbol of the imperial power, the barbarian attribute. Although the symbolical meaning of the small barbarian found as an accessory to the figures of emperor or Victory had been rightly emphasized by several authorities, his role of constant attribute of the emperor in the later empire had not been pointed out before, nor had attention enough been paid to the fact that this attribute was also

Constantinople is 369 (R. Delbrück, *Kaiserporträts*, p. 185, pls. 85—88, figs. 64—66) and 368/369 is the date given by Pearce (loc. cit.) for the *VOTA PVBLICA* type. On the base, kneeling barbarians appear in a lower zone than the rulers who are seated facing. A real relationship between the *VOTA PVBLICA* type and the base cannot be established, because the date of 369 for the base is far from certain (See Bruns, in *Istanbulser Forschungen*, 1935, pp. 69 ff.).

¹ For several types there is another possibility, namely that both the sculptural representations and the coin types might be derived from a common prototype, the triumphal painting (see above p. 24).

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transferred from the emperor to the gods who were more closely associated with him. The study of motifs and subjects is only one element in the study of Roman imperial sculpture. Despite many illuminating studies, a general history of Roman imperial sculpture has not been written and factual evidence must have a great place in such a study.

An aspect of the coin types which has not yet been taken into consideration in connection with sculpture is the one of style. In regard to this it will certainly be important to study the difference in style between the various mints. This involves a general study and knowledge of coins rather than an analysis of types such as has been presented in this study. The analysis of coin types combined with a knowledge of their style and an understanding of the current of ideas they reveal will aid a great deal in solving problems concerning the sculpture and may also shed some light on the uncertain dates of the extant works of Roman sculpture.

LIST OF ILLUSTRATIONS OF COINS

Plate	No.	Striking Agent	Date	Reference	Metal	Mint	Source of Illustration
I	1	Augustus	18/17 B. C.	BMC I p. 73 no. 427	A	Spain	From a cast in the Museo di Roma, Rome.
I	2	L. Vinicius	16	BMC I p. 14 nos. 77/78	A	Rome	From a specimen in the Museum of the American Numismatic Society, New York.
I	3	M. Durmius	18	BMC I p. 11 nos. 56/58	A	Rome	As above.
II	3	L. Aquilius Florus	18	BMC I p. 8 no. 43	A	Rome	From a cast in the Museo di Roma, Rome.
III	2	Vespasian	71 A. D.	BMC II p. 115 no. 535	Æ	Rome	From BMC II. pl. 20, 5.
III	3	Vespasian	69/70 A. D.	BMC II p. 6 nos. 43f.	A	Rome	From a specimen in the British Museum, London.
IV	1	Domitian	85	BMC II p. 362 no. 294	Æ	Rome	From a cast in the Museo di Roma, Rome.
IV	2	Domitian	95/96	BMC II p. 407 no. †	Æ	Rome	From Bernhart, <i>Handbuch zur Münzkunde der römischen Kaiserzeit</i> : pl. 94, 10.
V	1	Trajan	107/111	BMC III p. 82f. nos. 383, 384	A	Rome	From a cast in the Museo di Roma, Rome.
V	2	Trajan	100	BMC III p. 152 no. †	Æ	Rome	From Strack, I. pl. IV, 331.
VI	2	Trajan	104/111	BMC III p. 174 no. 826	Æ	Rome	From a cast in Prof. Cesano Collection, Rome.

Plate	No.	Striking Agent	Date	Reference	Metal	Mint	Source of Illustration
VI	3	Trajan	104/111	BMC III p. 65 no. 242	A'	Rome	From a cast in the Museo di Roma, Rome.
VI	4	Trajan	101/102	BMC III p. 48 no. 137	A	Rome	From a specimen in the British Museum, London.
VI	5	Titus	72	BMC II p. 140 no. 634	Æ	Rome	From a cast in the Museo di Roma, Rome.
VII	1	Trajan	114/115	BMC III p. 215 no. †	Æ	Rome	From Strack, I pl. VIII, 450.
VII	2	Trajan	112/117	BMC III p. 115 no. 588; p. 120 nos. 614f.	A'	Rome	From a specimen in the British Museum, London.
VII	3	Trajan	116/117	BMC III p. 223 nos. 1045f.	Æ	Rome	From a cast in the Museo di Roma, Rome.
IX	1	Trajan	114/115	BMC III p. 216 no. *	Æ	Rome	From Strack, I pl. VIII, 453.
IX	2	Trajan	116/117	BMC III p. 221 no. 1037	Æ	Rome	From a cast in the Museo di Roma, Rome.
IX	3	L. Verus	167	G. II p. 47 nos. 17f.	Æ		From G. II, pl. 74, 4.
IX	4	L. Verus	165	G. II p. 49 no. 39	Æ		From Toynebee: <i>Roman Medallions</i> , pl. XX, 3.
X	1	Honorius	392/423	C. VIII p. 185 no. 44	A'	Western	From a specimen in the Museum of the American Numismatic Society, New York.

List of Illustrations of Coins

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Plate	No.	Striking Agent	Date	Reference	Metal	Mint	Source of Illustration
X	2	Julianus	361/363†	C. VIII p. 54 no. 79 var.	A'	Antioch	From a specimen in the Museum of the American Numismatic Society, New York.
X	3	Constantine I	335/337* or 325**	G. I p. 17 no. 20	A'	Siscia	From G. I, pl. 7,4.
X	4	Probus	276/282	MS. V, 2 p. 35 no. 165	Ant.	Rome	From a cast in the Museo di Roma, Rome.
X	5	Constantius II	350/353††	C. VII p. 461 no. 140	Æ	Rome	From a specimen in the Museum of the American Numismatic Society, New York.
X	6	Commodus	183	BMC IV p. 706 no. 103.	R	Rome	From a specimen in the British Museum, London.
X	7	Commodus	183	BMC IV p. 708 no. 114	R	Rome	From a specimen in the British Museum, London.
X	8	Commodus	183/184	BMC IV p. 709 no. 120	R	Rome	As above.
X	9	Commodus	183/184	BMC IV p. 711 nos. 127, 128	R	Rome	As above.
XIII	1	Domitian	85	G. III p. 13 no. 1	Æ		From a cast in the Museo di Roma, Rome.

† For the dates of Julianus' coinage see Webb, in Num. Chr. 10, 1910 pp. 238f.

* date given by Maurice: M. II p. 366, XIV.

** date given by Elmer (Num. Zeitsch. 1930 p. 41 no. 9).

†† see Laffranchi, in *Atti Istituto Italiano di Numismatica* 6, 1930, pp. 134ff. on the dates of the coins of the period of Magnentius.

Plate	No.	Striking Agent	Date	Reference	Metal	Mint	Source of Illustration
XIII	2	Aurelianus	third period	MS. V, 1 p. 293 no. 254	Ant.	Siscia	From a specimen in the Museum of the American Numismatic Society, New York.
XIII	3	Diocletian	286/296	G. I p. 11 no. 7	A'	Rome	From G. I pl. IV, 14.
XIII	4	Caracalla	213/217	MS. IV, 1 p. 259 no. 312d	A'	Rome	From a specimen in Mr. F. Knobloch's Collection, New York.
XVI	1	Caracalla	202/210	MS. IV, 1 p. 288 no. 465b	Æ	Rome	From MS. IV, 1 pl. 15, 9.
XVI	2	Septimius Severus	210	MS. IV, 1 p. 121 no. 237	A'	Rome	From Hirsch Sale Cat. XX, 1907 no. 621.
XVI	3	Probus	276/282	G. II p. 115f. nos. 1f.	Æ		From G. II pl. 119, 1
XVI	4	Probus	276/282	MS. V, 2 p. 33 nos. 143f.	A'	Rome	From Hirsch Sale Cat. XXVI, 1910 no. 802.
XVI	5	Severus II	305/308	M. II p. 297, XI, 2	A'	Siscia	From M. II pl. IX, 8.
XVII	1	Numerianus	283/284	MS. V, 2 p. 196 nos. 422, 423	Ant.	Rome	From a specimen in Mr. F. Knobloch's Coll., New York.
XVII	2	Constantius II	348 ca. or after*	C. VII p. 466 no. 44	Æ	Rome	From a specimen in the Museum of the American Numismatic Society, New York.

* see Mattingly, in Num. Chr. 13, 1933 pp. 182 f.

List of Illustrations of Coins

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Plate	No.	Striking Agent	Date	Reference	Metal	Mint	Source of Illustration
XVII	3	Constans	348 ca. or after*	C. VII p. 407 no. 18	Æ	Cyzicus	From a specimen in the New York trade.
XVII	4	Constantius II	348 ca. or after*	C. VII p. 446 no. 39	Æ	Rome	From a cast in the Museo di Roma, Rome.
XVII	5	Valens	368/369†	C. VIII p. 116 nos. 82f.	A'	Constantinople	From a specimen in the Museum of the American Numismatic Society, New York.

* see Mattingly, in Num. Chr. 13, 1933 pp. 182f.

† see Pearce, The Roman Coinage from A. D. 364 to 423 p. 69 no. 55.

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- PLATE IV, 3 Bas-relief from the Arch of Constantine. Photo Anderson no. 2534.
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- PLATE VI, 1 Statue of Hadrian from Hierapytna. From a cast in the Museo di Roma.
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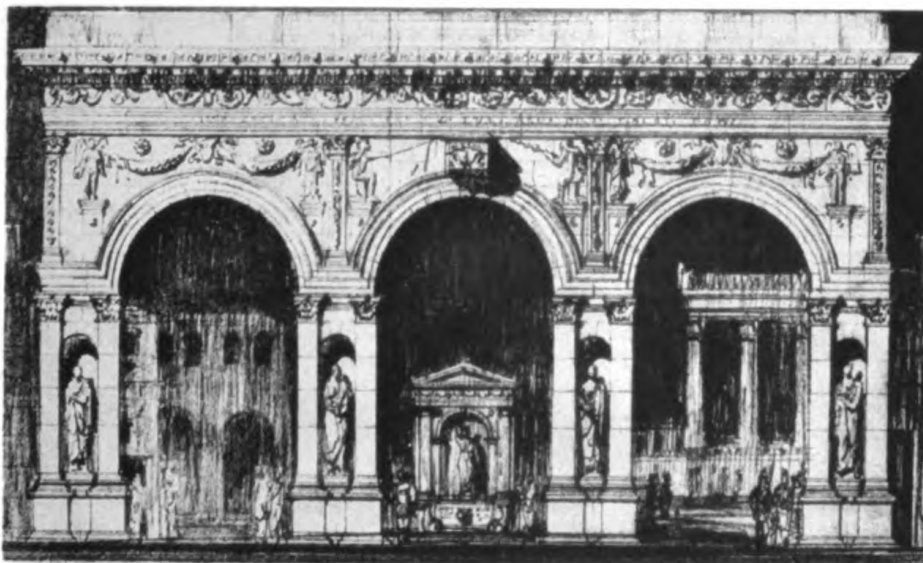
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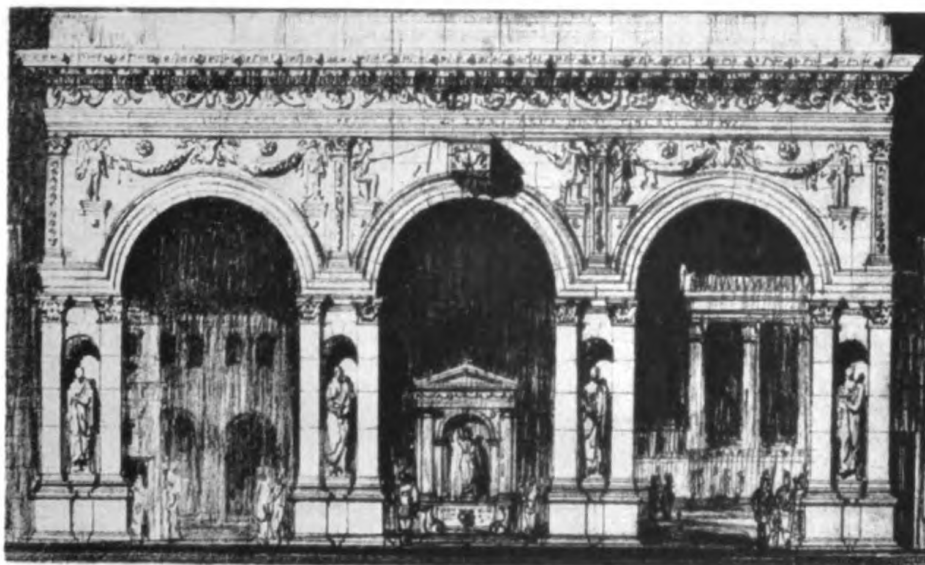
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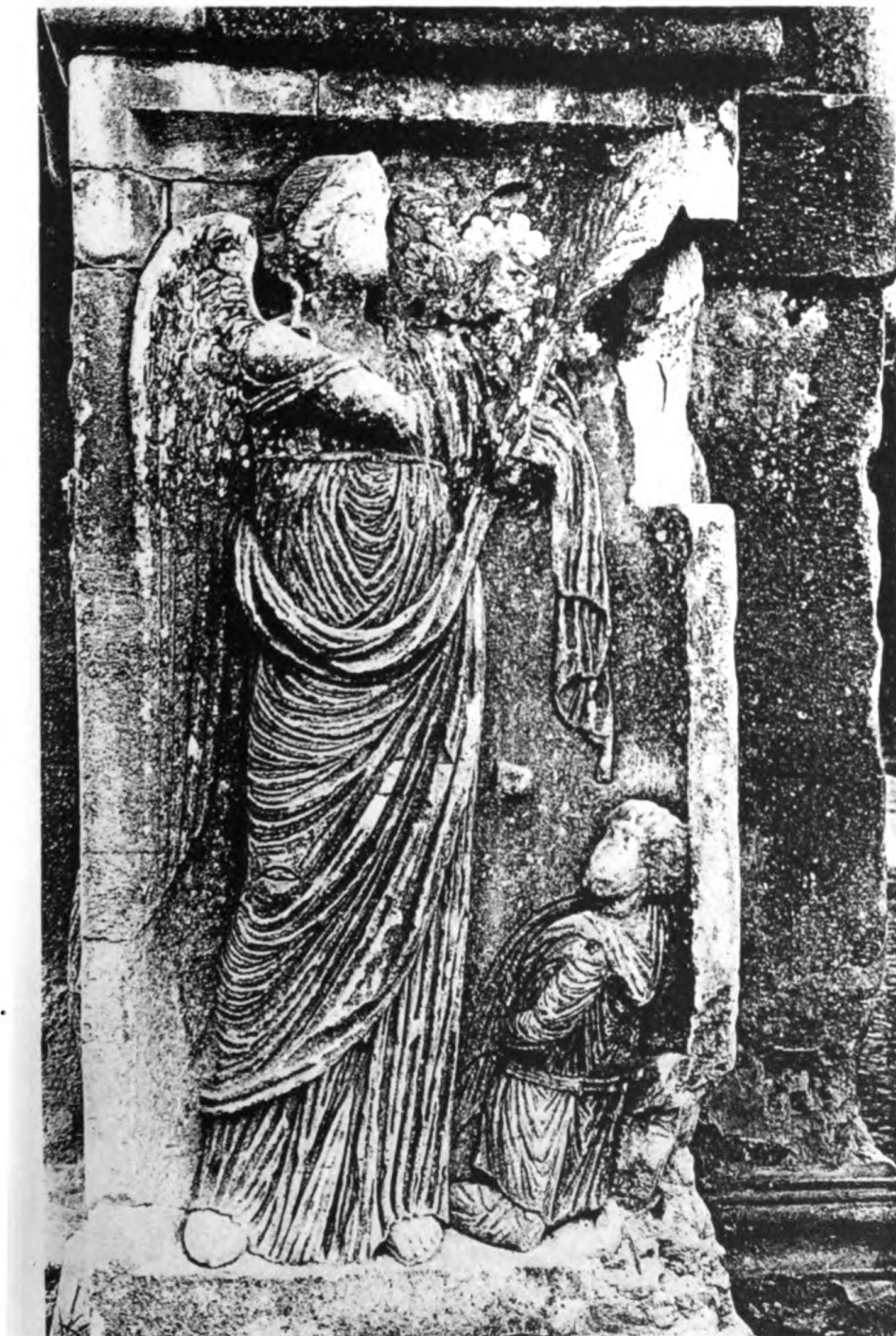
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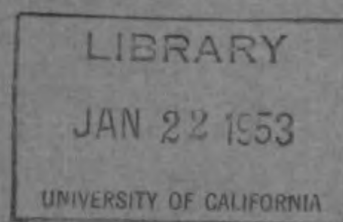
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NUMISMATIC NOTES AND MONOGRAPHS

No. 124

A HOARD OF SILVER COINS FROM CARYSTUS

By DAVID M. ROBINSON



THE AMERICAN NUMISMATIC SOCIETY

Broadway at 156th Street, New York

1952

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A Hoard of Silver Coins from Carystus

By DAVID M. ROBINSON



THE AMERICAN NUMISMATIC SOCIETY

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A HOARD OF SILVER COINS FROM CARYSTUS

A hoard of ninety-two silver coins, all covered with a thick purplish incrustation, recently came into my collection from a European dealer. The coins were cleaned with considerable difficulty;¹ the Euboean stater, no. 1 in the catalogue, resisted every effort to remove the incrustation; two Athenian tetradrachms (nos. 79 and 80, PLATE VI) have been left uncleaned to aid the identification of other coins which originally belonged with this hoard, if there be any such. The dealer said that he had bought the coins from a peasant who claimed that he had seen them dug up on the slopes of Mt. Ocha, above the modern Carysto (after 1833 called Othonupolis and now Palaechora) and that this constituted the total collection. I have been unable to get any further information about the precise spot on Mt. Ocha, whether they were found in a grave or near the primitive temple mentioned below. It is certain, however, in view of contents of the hoard, that they came from the site of the ancient Carystus. This is the fourth hoard² known to have come from Carystus, but only the second to contain Carystian staters from the period before 197 B.C. One, found in 1860, had fifteen; the present hoard has thirty-seven.

Carystus was an important city situated at the southern end of Euboea, at the foot of Mt. Ocha (1404 m. high)³ where there stands

¹ I am grateful to Mr. Edward Gans for his help in cleaning the coins.

² A hoard of 20 Carystian drachmas and 70 Athenian tetradrachms, buried about, 88 B. C., was found in 1883. (Cf. *Parnassus* [1883] 777; *ZfN*, 12 [1885] 103; *AJNum*, 18, 82.) A second hoard in a burial found in 1860 contained 15 staters; Sotheby, *Merlin Sale*, Nov. 11, 1861, 18, nos. 96—102. Cf. S. P. Noe, *Bibliography of Greek Coin Hoards*², (Num. Notes and Monographs No. 78), 67, 211, 212, for the hoards of 1800 and 1883; 86, 290, for a hoard of about 38 coins found in 1930, containing eight Carystian pieces of the second century B. C.

³ Cf. Walpole, *Travels in Various Countries in the East*, 285; Wiegand, *AM*, 21 (1896) 11—17; Baumeister, *Denkmäler des klassischen Altertums*, 2, pl. 15, 881—883, s. v. *Kyklopenbau*, not mentioned by Johnson, *AJA*, 29 (1925) 398—412. On the name Ocha, cf. Stephanus, s. v. *Κάρυστος*; Welcker, *Kleine Schriften*, 3, 376 ff.: called Ocha ἀπὸ τῆς ἐκεῖ ὀχείας ἣτοι τῶν θεῶν μίξεως Διὸς καὶ Ἥρας.

what has been interpreted as the oldest hypaethral temple, one dedicated to a nature-goddess later identified with Hera.⁴ Persians under Datis and Artaphernes landed at Carystus in 490 B. C.⁵ In honor of their opposition to the Persians and because they were free to plow their land again, the Carystians, after Marathon, dedicated a bronze bull to Apollo at Delphi.⁶ But in 480, the Carystians lent aid to Xerxes⁷ and Herodotus⁸ even says that there was a rumor, which is untrustworthy, that Onetes, son of Phanagoras, a Carystian, betrayed the Greeks at Thermopylae, for which later the Carystians were never forgiven.⁹ Carystus was the only city which did not for a long time join the Delian League, according to Geyer,¹⁰ although Besnier¹¹ says, "Elle fit partie de la confédération maritime d'Athènes." But, about 472 B. C., according to Thucydides, I, 98 and Herodotus, IX, 105, Carystus, without the rest of Euboea, fought the Athenians, came to an agreement, and was finally forced by Cimon to join the League. Up to 451 it paid a tribute of 7½ talents, then until 425, 5 talents.¹² Attic cleruchs evidently¹³ reduced the tribute, giving the Carystians more preference. Carystus joined the revolt of 446,¹⁴ but was recovered in 445. From 442-439 Carystus is absent from the full panel. It, however, remained faithful to Athens. In 415-414, the

⁴ Johnson, *AJA*, 29 (1925) 412.

⁵ Herodotus, 6, 99. F. Geyer, in his book, *Topographie und Geschichte der Insel Euboea* (Berlin, 1903), hereafter referred to as *Euboea*, 102 ff., gives the history of Carystus from Homer, II. 2, 539, to Macedonian times. Carystus was supposed to be an old colony of the Dryopians: Thuc. 7, 59; Diod. 4, 37; Scymnus 476; Strabo, 10, 6. For what is known of the topography of the city see *Praktika* (1908) 101-113; *IG* XII, 9, 25; *CIL*, III 12286, and *IG*, XII, 9, 8 and 9.

⁶ Pausanias 10, 16, 6.

⁷ Herodotus, 8, 66; Geyer, *op. cit.* (*supra*, note 5), 29.

⁸ Herodotus, 7, 214.

⁹ Herodotus, 8, 112, 121. Cf. the inscription, found at Carystus, published in *Praktika* (1901) 111. Η[ε]λλε [ν]ι[κ]ῶν μεδίσαντας Κα[ρ]υστίος ἐτιμωρέσατο

¹⁰ *Euboea*, 29.

¹¹ Besnier, *Lexique de Géographie Ancienne* (1914) 182.

¹² Cf. Meritt-Wade-Gery-McGregor, *The Athenian Tribute Lists*, 1, 302-3, 499; 2, 80.

¹³ Diod. 11, 88; Pausanias, 1, 27, 5.

¹⁴ Thucydides, 1, 114 and Meritt etc. *op. cit.* (*supra*, note 12).

Carystians, according to Thucydides, VII, 57, 4, were φόρου ὑποτελεῖς and in 411 Carystus became a member of the Euboean confederation. Three hundred Carystians joined the service of the Four Hundred at Athens,¹⁵ but they did not have a good reputation. They were considered to be sensualists, though gentlemen.¹⁶ They were a pre-Hellenic people of savage manners, according to Thucydides, VII, 59. In 377 Carystus joined the second maritime confederacy with Athens¹⁷ and, to judge from this hoard, was at that time striking her own coins for the first time since the early fifth century. Later she came under Boeotian and then Macedonian influence. After the expedition of Timotheus in 357, the Athenians were reinstated at Carystus, but by 350 Euboea was detached from the Athenian alliance, the tyrants in the various cities being, in the main, adherents of the Macedonian party. By 338 Carystus was under Macedonian domination along with the rest of Euboea and Greece. In the Lamian war Carystus helped Athens (323–322). In 313 she declared herself independent, after having been held by Cassander; ultimately she again fell under the power of Macedon, was conquered before 265 by Alexander, son of Craterus, and finally lost the last vestige of independence. During the third century she sent offerings to Apollo at Delos, as we know from inscriptional evidence.¹⁸ How Carystus fared during her periods of independence, with whom she traded, what were her reasons for starting an issue of coinage and then stopping it, all these things are unanswered questions, since she was a rather unimportant city-state and did little to change

¹⁵ Thucydides, 8, 69.

¹⁶ Aristophanes, *Lysistrata*, 1058, 1181.

¹⁷ Tod, *Greek Historical Inscriptions*, 2, no. 123. Cf. Laidlaw, *The History of Delos*, 77–79, for the administration of the Athenian Amphictyony, 377–373: i. e. the celebrated "Sandwich Marble" at Cambridge, on which arrears of interest on a loan (or loans) to the Carystians, *inter alios*, are recorded.

¹⁸ There were at least two *theoriai* from Carystus to Delos about 250 and 247 B. C. Cf. IG, XI, 2, 287, A₂ line 73, and Tréheux, "La Réalité historique des Offrandes Hyperboréennes," in *Studies Presented to David Moore Robinson II* (1952), 758–774. Presumably at this time or in the period following 377 (cf. note 17) the Καρυστίων οἶκος, listed by Deonna, *La Vie Privée des Déliens* (Fasc. VII of *École Française d'Athènes, Travaux et Mémoires*) 171, was in use. Cf. BCH 32 (1908) 43.

the course of history. In fact, the whole of Euboea never played a very large part in the affairs of Greece, after the early period, and had no historian to give that island immortality; therefore there must be considerable conjecture in any attempt at explanation of the issues of the coins of any and all Euboean cities.

Carystus was always prosperous because of the Carystian plain¹⁹ which was very fruitful, even producing famous nuts.²⁰ It was fertile and a good place to breed cattle; so a cow appropriately occurs on the coins of Carystus, as on those of practically all the cities of Euboea, a canting type for that land of fine cattle. Thus the staters of Carystus present the rather rare phenomenon of a double punning type: the obverse bearing that of the island and the reverse that of the city. The attitude of the Carystians toward the two will be touched upon in the discussion of the staters themselves. The harbor had good fish;²¹ the town produced pottery, specializing in a cooking dish called *κάκκαβος* by Athenaeus, V, 169f. Carystus was rich in minerals: copper, bronze and asbestos, *Καρύστιος λίθος*.²² It was very famous for the marble called cipollino, a white marble with green veins, much used by the ancients to beautify their buildings.²³ I saw on my visit traces of many ancient quarries on Mt. Ocha and elsewhere near Carystus. It produced many well-known men: Glaucus the athlete, celebrated by Simonides; Diocles the Physician; Aristonicus, the lyre-player and σφαριστής the ball-player of Alexander; Apollodorus, a comic poet; Diocles, a rhetorician; Antigonus, a biographer and artist; another Antigonus who in the third century B. C. wrote a *Collection of Marvels*; still another Antigonus, a poet of the Augustan age.²⁴

¹⁹ Herodotus 9, 105; Theophrastus, *H. P.*, 8, 4, 4; Athenaeus, II, 52f., V, 212b and VII, 304d; Pliny, *N. H.*, 18, 70.

²⁰ Geyer, *Euboea*, 14.

²¹ Athenaeus, VII, 295c, 302a.

²² Cf. *RE*, I, (1830) s. v. Amiantos; Seneca, *Tro.*, 836; *ferax varii lapidis Caristos*; Lucan, 5, 232, *saxosa Carystus*.

²³ *CIL*, VI, 8486, *lapicidinae Carystiae*; DarSag, 3, 1682; Strabo, 10, 437, 446,

²⁴ Cf. the list in Ziebarth, *IG*, XII, 9, 159—160, with complete *testimonia* on Carystus. Cf. also Meritt, etc, *op. cit.* (*supra* note 12), I, 499.

Of the ninety-two coins of the hoard the largest portion is from Euboea, a total of 76: of the remaining sixteen, six are Athenian tetradrachms with the caricatured owl of the fourth century; two are staters from Elis; four are tetradrachms, and three, drachmas of Alexander; and the last one is a rare tetradrachm of Antiochus Hierax. They have been catalogued chronologically, with the exception that the coins of Athens and of Elis have been placed after the Euboean drachmas, although they were probably contemporaneous. This actually disturbs the order very little and serves to leave the Euboean coins, the most important group in the hoard, together in the catalogue.

Milne in his *Greek and Roman Coinage* (pp. 92–97) discusses the differences between two main classes of hoards, domestic and mercantile, which in summary form are as follows. Mercantile hoards are predominantly local with no preference for staters; they may contain a marked proportion of worn coins (the contents of the till) or of freshly minted pieces (cash drawn for a definite purpose). Domestic hoards normally contain the best coins in circulation and the largest denominations readily available. The proportion of badly worn coins is smaller than in casual finds representing ordinary currency. Many domestic hoards contain earlier worn pieces and then fresh ones, indicating the time that the hoard was started and its subsequent growth. Such hoards are only accumulated when economic conditions are fairly stable. If there has been depreciation of the currency, the operation of Gresham's law (which Gresham did not invent) makes the "best" coins in circulation the older heavier ones; consequently the appearance of the coins in a domestic hoard is dependent on financial and economic conditions.

Further differences in the two types of hoard, not mentioned by Milne, must also be considered. A mercantile hoard can be presumed to contain a large proportion of currency in common use at a given moment when some circumstance prompted the secretion of the money. In such a case comparative wear would give an indication of comparative dating of the coins, but an indication merely, since it is obviously impossible to trace the wanderings of an individual coin,

and since foreign coins would tend to show more wear than local ones. Take for instance the hoard from Siphnos published by Newell²⁵ which contained, among others, seventeen Athenian coins all but one of which (a tetradrachm) were much more worn than the coins of Siphnos itself, which were at least as early as, if not earlier than, the Athenian pieces. The Siphnos hoard, like the one under discussion, is neither clearly mercantile according to Milne's definition nor clearly domestic. Indeed it is unlikely that most hoards can be so sharply delineated unless they appear in recognizable contexts in the course of excavations. However, a domestic hoard, the "proverbial stocking," to quote Milne, would contain coins covering a greater range of years (cf. for example the third, fourth and fifth Dura hoards, the last of which ranges in date from 49–20 B. C. to 256–7 A. D.)²⁶ and of varying degrees of wear, depending (a) upon the financial condition of the country or city — i. e. whether or not there was a depreciation of the currency at any time, (b) upon the financial condition of the hoarder, and (c) upon whether the coin was of local or foreign origin. Obviously a comparatively poor person would save whatever coin he could: a drachma or a tetrobol might well mean considerable scrimping; a wealthier person could exercise some discrimination in what coins he saved. Therefore, to argue from wear on hoard coins it must be demonstrated either that all the coins were withdrawn from circulation at once and stored away, and a distinction made between local and foreign currency, or that the hoarder had a historical rather than a financial interest in the coins. If he had two pieces of equal value, he may be supposed to have put away the better looking, if it weighed more. It seems fallacious to assume that the thrifty souls of antiquity, whose savings we come upon from time to time, were coin collectors in the modern sense, seeking to possess only the most beautiful of coins. This is not to say they were not cognizant of beauty: who would dare say that of a Greek? But, in a domestic hoard, even more than in

²⁵ *A Hoard from Siphnos*. (Num. Notes and Monographs No. 64).

²⁶ Bellinger, *The Third and Fourth Dura Hoards* and Newell, *The Fifth Dura Hoard* (Num. Notes and Monographs Nos. 55 and 58).

a mercantile one, cash value, or bullion value, that is weight, is to be taken as the determining factor in the selection of coins to be saved.

Our hoard has more characteristics of the domestic than of the mercantile hoard. Of the ninety-two coins fifty-one are staters or tetradrachms; forty-one are drachmas. Sixteen pieces are not of the island and of the remaining seventy-six, thirty are not of Carystus. Milne's statement that such a hoard contains "normally the best coins in circulation and the largest denominations readily available" is not at all restrictive. We have no way of knowing what are normally the best coins in circulation; in city states where the mint operated somewhat fitfully, the best coins of the year preceding an issue by the mint would not be in such good condition as the best coins in a year in which the mint operated. The "largest denomination readily available" would depend more on the financial condition of the hoarder than on the coins in circulation. The fact that this hoard ranges in date from the end of the fifth century to the second half of the third and contains but ninety-two coins is clear proof that it was not the saving of a wealthy family. Surely private financial and economic considerations determined the deposition of each coin in the hoard. It is, indeed, rather surprising, but not impossible, that the family savings were kept more or less intact over so long a period of time, although of course there is no way of knowing how often some coins were withdrawn to meet an emergency.

Disregarding the "foreign" coins in the hoard, the seventy-six Euboean pieces show signs of wear which preclude the possibility of judging relative chronology from wear. The Euboean stater, no. 1, is in very good condition; it might even be described as fine. It is the earliest coin in the hoard and obviously saw little circulation before being put away. Of the thirty-seven Carystian staters, 6% are very worn, 17% are worn and 40% are somewhat worn. The chart shows the distribution of the three groups of Carystian staters (see below for the classification), the Carystian drachmas and the Euboean drachmas, with symbols and without. In summary form these are the figures:

Carystian staters: 6% very worn; 17% worn; 40% somewhat worn.

Carystian drachmas: 12% very worn; 62% worn; 25% somewhat worn.

Euboean drachmas: 17% worn; 60% somewhat worn.

So we see nearly all the Carystian drachmas not well preserved; 77% of the Euboean drachmas more than slightly worn; 63% of the Carystian staters more than slightly worn.

	FINE	VERY GOOD	GOOD	SLIGHT- LY WORN	SOME- WHAT WORN	WORN	VERY WORN
Carystus							
staters	1	3	4	5	16	6	2
short ethnic	1	3	3	4	8	4	1
full ethnic			1	1	2		
monogram					4	2	1
Carystus							
drachmas					2	5	1
Euboean							
drachmas	1	2	1	2	17	6	
lyre		1	1		5		
Silen mask					2		
cantharus	1	1		2	5	1	
grapes						1	
no symbol					3	3	
dolphin					2	1	

The pattern which emerges in the staters shows that those with the short form of the ethnic (Group I, the earliest issue) include 47% in slightly worn, or better, condition, while the other two later groups have no specimen as good as some of those in Group I. This is a contradiction of Milne's statement that the early coins of a domestic hoard are more worn than the later entrants into it, a contradiction whose force is enhanced by the Euboean stater no. 1; on the other

hand, the very small proportion of very worn coins (6%), as well as the number of staters in contrast to the Carystian drachmas, do not allow the term mercantile to be applied to this hoard. It must be concluded that the period during which the early staters were struck, or perhaps a few more years, was a period of comparative prosperity for the family, when they were able to put away twenty-five staters. This is confirmed by the dies, since there is evidence of heavy striking in this series; surely private prosperity is in most cases at least closely associated with civic prosperity. If large numbers of these coins appeared on the market in quick succession, it must have been at a time of considerable prosperity when the family could save a large proportion of its income. The later staters were struck more lightly, for there are fewer die links; the inference is that times were less prosperous and there was less money in circulation; the family was able to save fewer and these in poorer condition.

Moreover, without considering the possible application of Gresham's law that good money tends to be driven out of circulation by bad, it is revealing to note that the 'somewhat worn' staters have a high average weight.

	GROUP I		GROUP II		GROUP III	
<i>Condition</i>	<i>(Numbers and weights, average)</i>					
Fine	1.	7.22				
Very Good	3.	7.15				
Good	3.	6.52	1.	7.18		
Slightly Worn	4.	6.85	1.	7.29		
Somewhat Worn	8.	7.03	2.	6.25	4.	6.59
Worn	4.	6.64			2.	6.65
Very Worn	1.	6.95			1.	5.90 (chipped)

There can be no question but that the weight of the coin was the determining factor in its entrance into the hoard. Ancient methods of minting being what they were, it is not surprising that a person interested in putting away as much value as possible would lay more

stress on weight than on appearance. Groups II and III do not show so clearly the importance of weight as a determining factor (their small number, 12, makes them less valuable as evidence), but they do show that it is not always the earliest coin that is the most worn. There can be no question about the chronological order of these Groups of staters: fabric, style and technique all combine to place Group I sometime about 377–371 and the other two Groups at least as late as 323, if not 313.

Turning to the other large group of coins in the hoard, the thirty Euboean drachmas, no. 45, which is a *unicum* has been excluded from the tabular survey on p. 8. The remaining thirty-one are grouped according to symbol in a relative chronology discussed in detail below. It is based on the quality of the style; the development of the coiffure from the coins of Evaenetus and his followers, widely adopted in Greece after 368, and the influence of the sculptural style through the latter half of the fourth century, as well as the deterioration of inspiration, not of an individual artist, but of numismatic art as a whole in the third century. While it is true that any stylistic argument may be considered subjective, yet generally recognized trends of style in related arts cannot be ignored. The existence of the British Museum coin (see below p. 4), in style closely related to those of Syracuse, is sufficient to make it clear that Euboea was in the area affected by these trends in style. No. 45 and the British Museum coin show the early stage before any symbol was used; nos. 66–71, also without symbol, occur much later in the series when the political situation did not warrant the addition of symbols to the type. The disparity between the early coins without symbol and nos. 66–71 shows clearly that they could not have been struck contemporaneously.

Turning back to the chart on p. 8, the similarity of the “wear pattern” of the drachmas to that of the staters is apparent. There are more of the earlier coins in better than “somewhat worn” condition than of the later ones. As with the staters, weight here is the determining factor in the entrance of a coin into the hoard.

A Hoard from Carystus

II

GROUP	FINE	VERY GOOD	GOOD	SLIGHT- LY WORN	SOME- WHAT WORN	WORN	VERY WORN
Lyre		3.30	3.32		3.65 3.50 3.70 3.58 3.29(b)		
Silen					3.12 3.25		
Cantharus	3.30 3.20			3.70 3.11(b)	3.32 3.36 3.41 3.44 3.41	3.76	
Grapes						3.15	
None					3.30 3.35 3.32 3.35	3.25 3.17	
Dolphin					3.48 3.25	3.16	
Average	3.25	3.30	3.32	3.40	3.33	3.29	
<i>Average weight of total: 3.31</i>							

Those weights marked (b) indicate coins which chipped in cleaning, because of the crystalization of the metal. The one coin with the cantharus symbol, weighing 3.70 (no. 55) is the only one of high weight in better than "somewhat worn" condition; this is balanced by no. 63, a "worn" coin, weighing 3.76. It is evident that too little attention has been paid to weight as contrasted with wear in the

study of domestic hoards. The coin in best condition from the point of view of the hoarder is the coin that weighs the most, not the one which looks the most beautiful. This principle should also operate in the case of mercantile hoards, since, except for purely local currency which had a token value rather than a value determined by the metal content, weight would be of prime importance. All other factors aside, weight, which is accurately measurable, as contrasted with degrees of wear, the determination of which is bound to be somewhat subjective, is tangible evidence on which to rely; weight must be considered before drawing conclusions about dates from the amount of wear on coins, particularly in dealing with domestic hoards such as this. For a further instance of a later coin which is more worn than an earlier one, see the Elean staters, nos. 81-82, pp. 56-57, and PLATE VI.

Therefore, in assigning relative and suggesting definite dates for Carystian and Euboean coins, greater reliance has been placed on such factors as fabric, technique, style and historical probability than on the wear of coins within the hoard. Particularly in this hoard, where the earliest and the latest coins of the ninety are the best preserved, any reliance on wear in determining dates is like to building one's house upon the sand.

EUBOEA, STATER

1. Unadorned head of Nymph r., in fine style.

Rev. Bull (or heifer?) with tilted head, standing r. on exergual line; traces of circular border; above ΕΥΒ

Wt. (uncleaned) 13.85 grms. (cleaned) 13.85 grms. 0.028 m. and 0.022 m. ↑ ↓ Fine.

It is generally stated²⁷ that a federal coinage, on the Aeginetan standard, probably struck at Eretria, was begun after 411 when

²⁷ For the chronology see Head, *H. N.*², 362, and Gardner, *History of Ancient Coinage*, 365. These disagree as to the date of the introduction of the Attic standard, Head giving 378 and Gardner 394. The occurrence of this coin in the hoard gives more weight to Gardner's date.

Euboea recovered her freedom. The types were a recumbent bull on the obverse and the head of the nymph on the reverse with the inscription. The standard was changed to the Attic about the time that Eretria allied herself again with Athens, in 378 or earlier; the types were changed to those of this coin. Cf. Grose, *McClellan Coll.* II, pl. 205, 6; Babelon, *Traité*, pl. CXC VII, 20–22. An unpublished coin in the Newell collection (wt. 16.36 grms.) and *Münzen und Medaillen*, Basel, *Sale Catalogue*, VIII, 1949, no. 820 (wt. 16.42 grms.) are from the same obverse die as the hoard coin, and probably from the same reverse. The same reverse is also used on the Berlin coin, *Traité* p. 195, no. 171a pl. 197, 20.

The style of the nymph's head,²⁸ unadorned by fillet, earrings or necklace, *simplex munditiis*, bears a startling resemblance to the bronze head found in the Athenian Agora in 1932. Homer Thompson²⁹ after careful study has dated that head ca. 430 B. C., giving as the *terminus ante quem* 413 B. C. when the profile head on the Syracusan tetradrachms developed a softness of outline which the Agora head does not have. The coiffure of the nymph on the hoard coin is not exactly like that of the bronze head; while the hair is pulled up to the top of the head, it has been done rather loosely, so that the hair waves naturally away from the face. The profile is marked by the same right angle of chin and neck as on the Agora head. The head on the McClellan coin (which has a different form of the inscription on the reverse) is not so delicate, although the hair shows some influence from the Syracusan tetradrachms of Evaenetus. It is surely later than this head.

The weight of this coin presents a problem. The Attic standard is variously given: by Head, *H.N.*² p. xlviii, as 17.49, with whom Gardner, *History of Ancient Coinage*, p. 156 agrees; by Seltman,

²⁸ Babelon, *Traité des monnaies grecques et romaines*, 2ème Partie, Tome III, (hereinafter cited simply as *Traité*) 195–6, cites Mahler, *Journ. Int. d'Arch. Num.* 3 (1900) 194–196 for the suggestion that this head is a copy from a head of "Apollo" in the Louvre, with replicas in Dresden and Naples. He dates the coin ca. 400 B.C.

²⁹ H. Thompson in *HSCP*, *Supplement* 1 (Athenian Studies Presented to William Scott Ferguson) 196–198.

Greek Coins, p. 42, as 17.00 grms. I should prefer to set the figure at 17.44 grms. which is $1/125$ of the royal mina of 1090 grms. In any case the Attic standard must be above 17 grms. Of the six Athenian tetradrachms in the hoard, the two uncleaned specimens weigh 17.31 and 17.45 grms. (nos. 79 and 80); the cleaned specimens, (nos. 75-78), all of which are worn, weigh respectively 16.50, 16.50, 16.40, and 16.31 grms. Such Euboean tetradrachms of Attic weight as I know have the following weights recorded: McClean, no. 5704, 16.59 grms., three in the Newell collection, 16.36, 16.32 and 16.95 grms., three listed by Babelon, *Traité*, pp. 195-6, 16.10, 16.45, 17.01 grms., the Basel coin mentioned above, 16.42 grms., Naville, 16 (1933), 1180, 16.51 grms. There can be no question but that these coins are struck on the Attic standard. Turning to the hoard coin, we have the extant weight of 13.85 grms., which is far too light for a tetradrachm on the Attic standard. Furthermore, this is the only coin in the hoard from which it was impossible to remove the heavy incrustation. The other coins, in the cleaning, shed this rather heavy layer, which flaked off with a tooth pick. Five Carystian staters were weighed before and after cleaning, with the results given below. The norm for these coins, on the Macedonian standard, is 7.29-7.36 grms.

UNCLEANED	CLEANED	PERCENTAGE OF LOSS
8.15	6.85	15 plus
8.05	6.95	13 plus
8.00	7.11	11 plus
8.15	6.65	18 plus
7.85	6.70	14 plus

The average loss is 14% and the range represented by these coins, taken quite at random, goes from more than 18% to more than 11%. Two of the drachmas, one of Carystus and one of Eretria, suffered a loss of slightly over 4% of the weight in cleaning. The diameter of the Euboean stater is 0.002 m. larger than the average for the Carystian staters; this means that the Euboean coin has a slightly larger surface

area for corrosion and that more than 14% loss could be assumed from cleaning, provided it were possible to remove the incrustation, which has hitherto resisted three separate efforts at cleaning the coin. After each attempt the coin was weighed and its weight remained 13.85 grms. But, to take as a conservative figure 14%, the weight loss would be 1.91 grms, which subtracted from 13.85 would leave 11.94 grms., as the cleaned weight of the coin, a figure which is probably too high, since 14% is conservative. The Euboean staters of Aeginetan weight, of which I know the weights are as follows: 11.94, 11.92, 11.45 (all from Babelon, *Traité*, pp. 193-194), Newell collection, 11.45 grms. The figures for the Carystian staters indicate that about 14% was added to the norm for the denomination by incrustation. If 14% be added to the norm for the Aeginetan stater (ca. 12.60 or ca. 12.14 grms.) the weight is 14.24 or 13.72 grms., in the former case only .39 grms. more and in the latter .13 grms. less than the weight of the hoard coin, which although in fine condition was probably not fresh from the mint. Therefore, in spite of the fact that certainly the obverse die and possibly the reverse die were used for Attic weight tetradrachms (cf. the references to the Newell and Basel coins above), this coin is an Aeginetan stater and provides the connecting link between the staters and the tetradrachms, proving that the type was changed before the standard. This change probably took place near the beginning of the fourth century (cf. note 27).

CARYSTUS

Staters on the Macedonian standard, norm: 7.29-7.36 grms.

GROUP I

2. Cow standing r., head turned back, with kneeling, suckling calf, on broad irregular exergual line. Damage to die at cow's r. hoof and exergual line.

Rev. KA above and PYΞ to r. of cock poised to crow, r. Artist 1.³⁰

P 1 A 1 Wt. 6.69 grms. 0.0245 m. ↑ ↑ Somewhat worn.

³⁰ For an explanation of the artists designated, see the discussion following the catalogue.

- 3.³¹ Die of 2. Cow's forefoot and exergual line confused.
Rev. Similar to 2 and possibly the same die. Artist 1.
 P 2 A 1 Wt. 7.22 grms. ↑ ↑ Fine
- 4.³² Die of 2. First break extends to l. forefoot; second appears at calf's l. foreleg and body.
Rev. Die of 3.
 P 2 A 1 Wt. (uncleaned) 8.15 grms. (cleaned) 6.85 grms.
 0.0232 m. ↑ ↓ Somewhat worn.
5. Die of 2. First break extends below exergual line; second obscures calf's upper leg and body.
Rev. Similar to 2. Artist 1.
 P 3 A 1 Wt. 6.10 grms. 0.0225 m. ↑ ↘ Good.
6. Die of 2. Die in condition of no. 5.
Rev. Die of 5.
 P 3 A 1 Wt. 7.22 grms. 0.021 m. ↑ ↘ Somewhat worn.
7. Die of 2, in same condition as nos. 5 and 6.
Rev. Die of 5.
 P 3 A 1 Wt. (uncleaned) 8.05 grms. (cleaned) 6.95 grms.
 0.0231 m. ↑ ↘ Very worn.
8. Die of 2. First break damages l. leg; second little changed.
Rev. Die of 5.
 P 3 A 1 Wt. (uncleaned) 8.15 grms. (cleaned) 6.65 grms.
 0.023 m. ↑ ↘ Worn.
9. Die of 2. First break obscures both forelegs; second extends farther down calf's leg.
Rev. Similar to 2. Artist 4.³³
 P 4 A 1 Wt. (uncleaned) 8.00 grms. (cleaned) 7.11 grms.
 0.0244 m. ↑ ← Good.

³¹ This coin is now in the possession of Mr. Gans.

³² From the same pair of dies as Grose, *McClean Coll.* 2, 5655, pl. 203, 18.

³³ The same artist made the reverse die of *SNGL*, 2, no. 1782, pl. 33, which is also used there with A 1.

- 10.³⁴ Die of 2, in same condition as no. 9.
Rev. Similar to 2. Artist 3.
 P 5 A 1 Wt. 6.90 grms. 0.0222 m. ↑ ↘ Very good.
11. Die of 2. First break obscures forelegs higher; second extends into body of calf.
Rev. Similar to 2. Artist 3.
 P 6 A 1 Wt. 6.36 grms. 0.0242 m. ↑ ↑ Good.
12. Die of 2. First break extends farther below exergual line; second slightly larger.
Rev. Similar to 2. Break visible on body just above r. leg. Artist 1.
 P 7 A 1 Wt. 7.29 grms. 0.0242 m. ↑ ← Somewhat worn.
13. Die of 2. Die in condition of no. 12.
Rev. Die of 12. First break slightly larger; second at center back.
 P 7 A 1 Wt. 7.00 grms. 0.0225 m. ↑ → Somewhat worn.
14. Die of 2. First break slightly retouched at forelegs; second little changed.
Rev. Die of 12. First break slightly larger; second extends into field.
 P 7 A 1 Wt. 7.13 grms. 0.0225 m. ↑ ↘ Slightly worn.
15. Die of 2. First break reaches dewlap; second reaches exergue.
Rev. Similar to 2; tail feathers and rear claw of r. foot different from P 1 and P 2. Artist 1.
 P 8 A 1 Wt. 6.90 grms. 0.0245 m. ↑ ↘ Slightly worn.
- 16.³⁵ Similar to 2. Die damaged slightly at cow's l. hind foot.
Rev. Similar to 3, but letters in different position. Artist 1.
 P 9 A 2 Wt. 6.39 grms. 0.0236 m. ↑ ↘ Slightly worn. (broken)
17. Die of 16. Damaged area mostly off flan.
Rev. Die of 10.
 P 5 A 2 Wt. 6.88 grms. 0.023 m. ↑ ↑ Very good.
18. Die of 16. First break obscure; second at cow's r. forefoot.
Rev. Die of 10.
 P 5 A 2 Wt. 7.68 grms. 0.024 m. ↑ ↘ Very good.

³⁴ From the same pair of dies as *BMC Cent. Greece*, 101, 7, pl. 18, 6.

³⁵ From the same pair of dies as *BMC Cent. Greece*, 101, 6, pl. 18, 5.

18a. Die of 18.

Rev. Die of 10.

P 6 A 2 Wt. 7.15 grms. 0.025 m. ↑ ↑ Somewhat worn.

19. Die of 16. First break off flan; second little larger than on 18.

Rev. Similar to 2.

Artist 3.

P 10 A 2 Wt. 7.00 grms. 0.0227 m. ↑ ↑ Slightly worn.

20. Die of 16. First break extends to calf's r. forefoot; second toward cow's l. forefoot.

Rev. Die of 12. Both breaks larger.

P 7 A 2 Wt. 6.91 grms. 0.0222 m. ↑ ↓ Somewhat worn.

21. Die of 16. First break reaches exergual line; second off flan.

Rev. Die of 12. Both breaks larger.

P 7 A 2 Wt. 7.40 grms. 0.0222 m. ↑ ↑ Somewhat worn.

22. First break obscures exergual line and legs of both animals; second break enlarged.

Rev. Die of 15.

P 8 A 2 Wt. (uncleaned) 7.85 grms. (cleaned) 6.70 grms.
0.022 m. ↑ ↓ Worn (very?)

23. Die of 16. First break widens exergual line over calf's hoof; second obscures both forefeet and exergual line.

Rev. Die of 15. (Possibly traces of restriking.)

P 8 A 2 Wt. 6.45 grms. 0.0225 m. ↑ ← Worn.

24.³⁶ Similar to 2, but exergual line narrow and regular.

Rev. Same type as 2, but cock less soigné.

P 11 A 3. Wt. 6.92 grms. 0.0228 m. ↑ ↘ Somewhat worn.

25. Similar to 24.

Rev. Similar to 2. Condition of coin prevents positive identification with a known die; it seems to be in the style of the third artist.

P 12 A 4 Wt. 6.78 grms. 0.022 m. ↑ ↘ Worn.

³⁶ I am informed by Prof. William Wallace that this coin is from the same pair of dies as *Naville* 17 (Oct. 3, 1934) no. 460 and also a coin in the Stadtbibliothek, Winterthur, which he had considered "suspicious" until the hoard coin appeared.

DIE SEQUENCE, GROUP I

P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8
2	3,4	5,6,7,8	9	10	11	12,13,14	15
A 1	A 1	A 1	A 1	A 1	A 1	A 1	A 1

P 9	P 5	P 10	P 7	P 8	P 11	P 12
16	17,18	19	20,21	22,23	24	25
A 2	A 2	A 2	A 2	A 2	A 3	A 4

GROUP II

26.³⁷ Cow and calf as on 2, on exergual line which is heavy but not so irregular as on A 1 and A 2.

Rev. KA above and PYΞTIAN to r. of cock.

P 13 A 5 Wt. 6.07 grms. 0.024 m. ↑ ↑ Somewhat worn.

27. Die of 26.

Rev. Die of 26.

P 13 A 5 Wt. 7.18 grms. 0.0242 m. ↑ ↑ Good.

28. Die of 26.

Rev. Die of 26.

P 13 A 5 Wt. 7.29 grms. 0.0232 m. ↑ ↑ Slightly worn.

29. Similar to 26.

Rev. Die of 26.

P 13 A 6 Wt. 6.43 grms. 0.0219 m. ↑ ↑ Somewhat worn.

³⁷ From the same pair of dies as Paris, *Traité*, 179—180, no. 153, pl. 196, 11.

GROUP III

- 30.³⁸ Similar to 26, except for narrower exergual line and dotted circular border.

Rev. ♂ above and KAPYΣTΩN to r. of cock.

P 14 A 7 Wt. 6.09 grms. 0.0245 m. ↑ ↓ Somewhat worn.

31. Die of 30.

Rev. Die of 30.

P 14 A 7 Wt. 7.45 grms. 0.0238 m. ↑ ↓ Somewhat worn.

32. Similar to 30, but without dotted circular border.

Rev. Similar to 30, but with monogram ⬆

P 15 A 8 Wt. 6.69 grms. 0.023 m. ↑ ↓ Worn, broken.

33. Die of 32.

Rev. Die of 32.

P 15 A 8 Wt. 6.62 grms. 0.0232 m. ↑ ↓ Worn.

34. Die of 32.

Rev. Die of 32.

P 15 A 8 Wt. 5.90 grms. 0.0222 m. ↑ ↓ Very worn, broken.

35. Similar to 32.

Rev. Similar to 32.

P 16 A 9 Wt. 6.24 grms. 0.022 m. ↑ → Somewhat worn.

36. Die of 35.

Rev. Similar to 35, but cock's legs longer.

P 17 A 9 Wt. 6.59 grms. 0.023 m. ↑ → Somewhat worn.

- 36a. Die of 36.

Rev. Similar to 36.

P 18 A 9 Wt. 6.42 grms. 0.023 m. ↑ → Somewhat worn.

³⁸ From the same pair of dies as *BMC Cent. Greece*, 102, 13, pl. 18, 11.

DIE SEQUENCE

GROUP II		GROUP III			
P 13	P 13	P 14	P 15	P 16	P 17
26,27,28	29	30,31	32,33,34	35	36
A 5	A 6	A 7	A 8	A 9	A 9

Drachmas on the Macedonian standard, norm: 3.64–3.68 grms.

37. Head of Heracles r., in lion skin.

Rev. KAP above bull reclining l. No club visible in field below.

P 1 A 1 Wt. 3.65 grms. 0.014 m. ↑ → Very worn.

38. Similar to 37.

Rev. KAPY above bull reclining l; in field below, club.

P 2 A 2 Wt. 3.02 grms. 0.0159 m. ↑ ↑ Worn.

39. Similar to 37.

Rev. Die of 38.

P 2 A 3 Wt. 3.56 grms. 0.0169 m. ↑ ← Worn.

40.³⁹ Similar to 37.

Rev. Similar to 38.

P 3 A 4 Wt. 3.40 grms. 0.016 m. ↑ ↑ Somewhat worn.

41. Similar to 37.

Rev. Similar to 38.

P 4 A 5 Wt. 3.30 grms. 0.0158 m. ↑ → Worn.

42. Similar to 37.

Rev. Die of 41.

P 4 A 6 Wt. 3.51 grms. 0.0161 m. ↑ ↓ Somewhat worn.

43. Similar to 37.

Rev. Similar to 38, but club longer.

P 5 A 7 Wt. (uncleaned) 3.71 grms. (cleaned) 3.55 grms.
0.0164 m. ↑ → Worn.

44. Similar to 38, slightly larger and details of mane dissimilar.

Rev. Similar to 38.

P 6 A 8 Wt. 3.35 grms. 0.017 m. ↑ → Worn.

³⁹ *BMC Cent. Greece*, 101, 8, pl. 18, 7, is from the same obverse die (A 4), but the reverse die is P 2, adding another die coupling.

DIE SEQUENCE

P 1	P 2	P 2	P 3	P 4	P 4	P 5	P 6
37	38	39	40	41	42	43	44
A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8

These thirty-seven staters and eight drachmas of Carystus represent the largest group in the hoard, and nearly half the total number of coins in it. While it is not possible, of course, to draw final conclusions from such a number, these pieces do suggest a more definite chronology than has been given to the fourth century coinage of Euboea; together with the Euboean drachmas (nos. 45-74) they help to clarify the numismatic history of the island.

Leaving the drachmas out of account for the moment, the fabric and mint technique of the staters makes it possible to arrive at a relative chronology for them. Head and Babelon⁴⁰ have already suggested a considerable interval of time between the minting of the staters with the short ethnic (nos. 2-25) and the others; Head was not aware of the existence of the variety with the complete ethnic but no monogram. For convenience those with the short ethnic, nos. 2-25, are called Group I, those with the complete ethnic, nos. 26-29, Group II, and those with complete ethnic and monogram, nos. 30-36, Group III. They show some differences of size and weight, the former of which is emphasized by the fact that on the first Group the cow is always slightly too large for the flan. Curiously enough, as the flans grew larger the cows grew smaller. Below are the differences in weight and size.

GROUP WEIGHT (WITHOUT LIGHTEST)		DIAMETER RANGE OF GREATEST FREQUENCY.	
I	6.97 grms.	0.0229 m.	0.0222-5 m.
II	6.96 grms.	0.023 m.	0.024 m.
III	6.84 grms.	0.0231 m.	0.0231 m.

⁴⁰ *BMC Cent. Greece*, 101-102; *Traité*, 177-178 and 179-182.

Since Groups II and III are more like one another than Group I, their weights also have been averaged: 6.90 grms. As Group II and III total only eleven coins as contrasted with the twenty-four in Group I, it is perhaps unsafe to say more than that Group I coins are at once heavier and smaller than the others. They are thicker and the reverse, if not actually scyphate, is at least deeply saucer-shaped, indicating the use of a circular punch very little, if any, larger than the die. The result of this difference in shape is apparent on the coins: the reverses of Group I are in many cases almost unworn, while the obverses are badly rubbed (cf. nos. 3, 9, 10, 11, 17-19); in the other Groups the wear is more nearly the same on both sides. The dies in Group I are all loose; in Group II the dies are fixed in the upright position; of the third Group, nos. 30-34 have the dies reversed and nos. 35-36 have the punch die at a right angle. At first glance it would seem then that the catalogue order should be changed, since Group II has the normal position for fixed dies. But, there is no real difference between having the dies fixed upright or in reverse, for the stresses on them are identical, at least on dies with such types as these. The real advance comes in nos. 35 and 36, where placing the punch die at a right angle to the anvil insures that the long axes of the dies are in the same direction, with a resultant distribution and equalization of pressure in use which would prolong the life of the dies. Therefore, from the point of view of technique and fabric, it appears that Group I is the earliest and that some time elapsed between it and the two subsequent Groups, which probably succeeded one another closely.

In the catalogue the order of the coins is the result of the observation of the growth of die breaks, each of which is recorded; the use of anvil die A 1 before A 2 is proved by the growth of the breaks on punch die P 7. In no. 12 it shows only the lower break; nos. 13 and 14 show the upper break as well, in a sufficiently advanced form to presuppose considerable use between nos. 12 and 13. Nos. 20 and 21, which show P 7 with A 2, show both breaks larger than on any of the coins with A 1. The other two punch dies used with both anvils (P 5 and P 8) have no discernable damage and their position in the se-

quence is based, as is that of all the other dies, on the growth of breaks in the anvil dies. Either this issue of Carystian staters was very heavy or the two anvil dies were used over a long period. If the latter were the case, we might reasonably expect to find great individual variety in the punches and fewer coins from the same dies in the hoard. Possibly also there might be differences in wear, although that is a minor consideration in such a hoard as this. However, there is little variety in the punch dies, not more than can be attributed to individual artists working simultaneously; the type of the cock is homogeneous and in considerable contrast to that of the later staters. In the case of P 2, P 3, P 5, P 7 and P 8 we have from two to five coins from the same die. It seems reasonable to conclude, therefore, that, whatever the occasion for the commencement of this issue, a demand for large numbers of coins was felt and was met by such coins as these in the hoard. In the case of nos. 24 and 25, each of which has both punch and anvil dies unconnected with the others (cf. note 36) we may infer that production slackened off after the first demand for currency was satisfied. This inference from the hoard is confirmed by such published specimens as are known to me; there are only two coins, those mentioned in note 41, from the dies of no. 24 and none, so far as I have been able to determine, from the dies of no. 25.

The dies present another anomaly, or perhaps tend to refute a statement which has gone unchallenged. The punch die, because of the pressure exerted directly upon it, is presumed to have worn out faster than the anvil.⁴¹ Here we have ten punch dies, with only one (P 7) showing signs of wear, used with two anvil dies, both of which show some damage in their earliest use in the hoard (nos. 2. and 16) and an increasing amount with the changing punch dies. The increase has been noted in the catalogue. The reason for such a state of affairs is not clear, but may possibly be set down to local patriotism. The obverse type, bovine as was customary in Euboea, pointed less directly to Carystus than did the cock on the reverse. The later use of the complete ethnic and then an additional monogram on the reverse

⁴¹ Cf. Seltman, *Greek Coins*, 21 and Milne, *Greek and Roman Coins*, 46.

most gifted, made three dies used only with A 1 (P 1, no. 2; P 2, nos. 3 and 4; P 3, nos. 5–8), one die used with both anvils (P 8, nos. 15, 22, 23) and one die used only with A 2 (P 9, no. 16). These five dies have such minor differences that it is difficult to distinguish them: possibly P 1 is the same as P 2, but the letters K and A seem to be slightly higher on P 1; P 8 differs from P 2 chiefly in the angle of the rear talon of the right foot, best seen on no. 15; P 9 is differentiated from P 3 only in the cross bar of the A and the spacing of the K and A. Artist 1 was possibly the main workman, since he made half the extant dies. The second artist made only one die appearing in the hoard; it is P 7 (nos. 12, 13, 14, 20, 21) where the cock has unusually long wattles. This is the only punch which is damaged; by means of it the order of use of A 1 and A 2 has been determined. The third artist is the most individual of the lot; three dies which are used with both anvils are certainly assignable to him, possibly two others. P 5 (nos. 10, 17, 18), P 6 (no. 11) and P 10 (no. 19) have a cock with short wattles and slightly opened mouth, in an aggressive pose which is enhanced by the roughened appearance of his feathers. The effect seems to have been produced by the use of the drill only slightly masked. He also used the drill in making the letters, connecting the dots (depressions in the die) by thick lines; the K often appears as K, not a rare form generally, but confined to Artist 3 on the Carystian pieces. He may also have been the artist of P 4 (no. 9) and of *SNGL*, III, 1782; these show the same use of the drill, but the pose of the bird is different: there is a shallow curve from the tip of the tail, along the back and up the neck, while P 5, P 6, and P 10 have no curve between neck and back and a rather sharp angle between back and tail. It is hard to tell whether one pose is characteristic of one artist or whether the same artist varied the stance of his bird. At least they are closely related; in the catalogue the maker of P 4 has been called Artist 4. The maker of P 11 perhaps is Artist 1, but the only specimen from this die in the hoard (no. 24) does not show the arrangement of the tail feathers which Artist 1 uses elsewhere. It is in his rather pedestrian style. No. 25 is worn, and damaged on the reverse; it is possible that the die is

the same as one of the others, but the condition of the coin does not warrant a final attribution. Since the anvil die is unique, it is probable that the punch should be considered a new one.

The anvil dies lack the individuality of the punches. It is possible that one artist made the first three: A 1 and A 2 particularly are closely alike in pose and proportions, while A 3 differs but slightly. A 4 is in a rather different style and more like the obverses of staters nos. 26–36. Despite the apparent indifference of the Carystians to the condition of the anvil die, the type is of considerable interest. Throughout Euboea's history, the main types were always bovine, obviously canting.⁴⁷ The early coins with the cow scratching herself, the bull standing, the bull or cow reclining, the filleted bull's head, all are clearly appropriate to the land of fair cattle. Carystus, at the end of the sixth or the beginning of the fifth century, used a variant form and re-used it again in the fourth century on the staters. It is the old motif used in Middle Minoan III;⁴⁸ Gardner⁴⁹ says of it, "The types of the obverse, a cow suckling a calf, seem to refer to the early settlement of the island (Corcyra) from Euboea, that being the ordinary type of Carystus and referring to the worship of the Mother-Goddess." But in a note he adds: "There are, however, doubts whether this story of Euboean colonization is historic." Chronologically it is difficult to see how the coins of Corcyra, which bear this type at least as early as

⁴⁷ Cf. Head, *HN*³, 355 ff.; Geyer, *Euboia*, 106 ff.; Friedländer, *ZfN* 8, 10. Bull scratching itself with hoof, *Traité*, 2, 2, pl. 32, 14; bull's head, *BMC Cent. Greece*, pl. 18, 2, 9; *Num. Chron.* (1898) pl. 19, 7; cow suckling calf, *BMC Cent. Greece*, pl. 18, 1, 5, 6, 11, 12; *Traité*, 2, 2, pl. 32, 15, and 2, 3, pl. 196, 11–12; other in the *Weber Coll.* (no. 3332), Copenhagen SNG 3, nos. 415–416, Ward, *Greek Coins*, pl. 12, 496, not from die of *BMC Cent. Greece*, pl. 18, 6 as there stated, but from no. 5, with short ethnic (*i. e.*, no. 16 in the hoard); SNG^L, 3, no. 1782 and many others.

⁴⁸ Cf. the plaque in Evans, *Palace of Minos*, 1, 511, fig. 367; Seltman, *Greek Coins*, 69, and pl. 11, 4; Bossert, *Alt-Kreta*, 224, 229. For the cow and calf as an Asia Minor symbol of a nature goddess, cf. Curtius, *AZ* (1855) 3 ff.; the relief over the door on the west side of the 'Harpy' Tomb is illustrated in Lawrence, *Classical Sculpture*, pl. 29a and discussed by Head, *BMC Cent. Greece*, lv. Cf. the terra cotta plaque from Olynthus and my detailed discussion of motive in *Olynthus*, 14, 227–228.

⁴⁹ Gardner, *Hist. of Anc. Coinage* 138–9.

the middle of the sixth century⁵⁰ are derived from Carystian coins of the end of the sixth or the beginning of the fifth century. On the other hand, among the early, ill-assorted coinages of the Thracio-Macedonian area in the sixth century,⁵¹ the type occurs in two forms, one with the cow facing left, the other with the cow facing right. The Corcyraean coins use both forms. The northern coins are variously assigned with insufficient surety, since the mass of that coinage has not received the attention it deserves. However, the two versions of the type in the north are used on coins of two different weight standards: the type facing left appears on coins which are Attic didrachms; the others are on the standard which developed later into the Macedonian. There are, of course, other bovine types in the north, but this is the only one which spread as far as Corcyra on the west and Carystus on the south. Lack of exploration and excavation in the Balkans leaves us quite ignorant of the early culture of that area, but some Minoan artifacts have been found.⁵² It seems quite probable, in view of the dates involved and the fact that Carystus struck coins of this type on the Macedonian standard in the fourth century, that the type, or motif, survived from Minoan times in the north; it was borrowed from there by Corcyra in the sixth century and somewhat later by Carystus. Possibly the statement of Thucydides⁵³ that the Carystians were a pre-Hellenic people may be taken to suggest that there was some survival in the town of Minoan culture, or he may have known the source of this coin type. The existence of a primitive temple of "Hera" may mean that the Mother-Goddess worshipped here from Minoan times changed only her name with the coming of the Olympians.⁵⁴ One detail of the type of the staters is the heavy, irregular, exergual line, which must be meant to represent the rough surface of the ground, such as occurs on the Minoan plaque cited in note 48 and

⁵⁰ Cf. Seltman, *Greek Coins*, 70 and Grose, *McClean Coll.* 2, pl. 189, nos. 15—18.

⁵¹ Cf. Gaebler, *Die Antiken Münzen Nord-Griechenlands*, 3^a, pl. 26, nos. 12—15 and Copenhagen SNG Macedonia, 1, pl. 11, nos. 460—462.

⁵² Casson, *Macedonia, Thrace and Illyria*, 134—136.

⁵³ Thuc. 7, 59.

⁵⁴ Cf. note 3.

in other contexts on many Minoan paintings, and even vases. This 'pictorial' treatment of the exergual line is clear on A 1 and A 2, but is lacking on A 3 and A 4; this is one reason for doubting that one artist made more than the first two dies. The staters with the complete ethnic retain it slightly reduced, but it is missing from those with the monogram. Its survival into the fourth century in Carystus gives weight to the words of Thucydides just quoted, since it more than hints that something of Minoan tradition remained there. The device is not used on coins with this type issued elsewhere. Its appearance is a mystery, but there can be no doubt of its source.⁵⁵

The eight Carystian drachmas, nos. 37-44, in fabric and technique closely resemble the staters with the abbreviated ethnic. They are rather thick and the reverse is almost scyphate. No. 37 is possibly the earliest, but is separated by no great interval of time from the others. The inscription on the reverse has only the first three letters KAP of Carystus, and there appears not to be a club below the recumbent animal. Other and better specimens may, however, show that it is part of the type as it is on the others. The style of the remaining seven is homogeneous⁵⁶ and but slightly better than that of no. 37. Six punch dies and eight anvils furnish few dies links, although the British Museum coin mentioned in note 39 adds another. The chief significance of these eight drachmas in the hoard is to confirm its domestic nature: either they are slightly earlier than the staters and entered the hoard before them, or they are contemporaneous and entered the hoard in small numbers because of the availability of the staters, and the inferential prosperity of the family at the time.

The use of the head of Heracles on the obverse, the relegation of the island canting type to the reverse and the complete abandonment

⁵⁵ G. M. A. Richter, *Sculpture and Sculptors of the Greeks* (1950) 32, points out the concrete symbolism in Greek Art: the pebble for the beach, the fish for the sea, the growing plant for the meadow, etc. These coins with a heavy irregular exergual line indicate perhaps the meadow, by a different device, or perhaps the barnyard.

⁵⁶ The statement of Head, *BMC Cent. Greece*, lx, on the style of the Heracles head, is in a comparison of the head on coins of the early fifth century with those similar to the hoard pieces. There is no appreciable advance in style within the latter group.

of the local canting type should have some significance. Possibly in the fourth century there was an increased interest in the cult of Heracles and the temple mentioned in late inscriptions was really begun at that time. It is tempting to see a connection with the north in the appearance of Heracles on the drachmas at a time when the Macedonian kings were using that type for the obverse of their staters, but there is nothing to justify it. More reasonably, in view of the increasing importance of Thebes and Boeotia in the first third of the fourth century, it may be associated with Boeotian types.

The attention paid to Euboean coins has been something less than profound; hence the dates given are conjectural and there are discrepancies. Gardner⁵⁷ says, "either at the time of the Peace of Antalcidas, 387 B. C., or at that of the Congress of Delphi, 369 B. C. (*sic*), the cities of Chalcis, Carystus and Histiaea resumed the issue of civic coins. . . . Carystus also struck didrachms on the same standard." Head, followed by Babelon,⁵⁸ dates those staters with the short ethnic *ca.* 369?–336 (Group I) and those with the monogram (Group III) *ca.* 313–265. Now the Peace of Antalcidas had guaranteed autonomy to the cities of Greece, but the amount which resulted therefrom is problematical. Certainly, not until the Congress at Delphi in 368 was there much actual freedom. The first half of the fourth century saw a series of shifting alliances: part of the time Euboea was the ally of Athens, toward whom she could not have felt particularly loyal, after the treatment she had received at the hands of Athens during the fifth century. By 377 Euboea was in alliance with both Thebes and Athens and moving gradually toward the former.⁵⁹ Athens had had friendly relations with the Chalcidic League, culminating in the renewal of an alliance in 375;⁶⁰ these relations were seriously disturbed

⁵⁷ Gardner, *Hist. of Anc. Coinage*, 366.

⁵⁸ See note 40.

⁵⁹ *Traité*, 170, quoting Curtius, *Hist. grecq.* 5, 255. For the close similarity of fabric between the Carystian pieces and those of Thebes issued after 378, cf. *BMC Cent. Greece*, pl. 15, nos. 1–10 with the hoard coins.

⁶⁰ Dittenberger, *Sylloge*², 143; *IG II*² 36; West, *History of the Chalcidic League*, 108, has proposed the year 375/4 for the date of this decree.

by the alignment of Athens with Macedonia in 371–370.⁶¹ From 368–358 Athens was trying to regain Amphipolis, a course of action which could only further alienate the League. We know nothing of efforts on the part of the Chalcidic League to enlist southern support against Athens, although she was friendly with Thebes. In 371 occurred the battle of Leuctra, after which until 358 Euboea was a dependency of Thebes. From their fabric it is clear that the Carystian drachmas in the hoard and the staters of Group I are contemporaneous with each other and slightly earlier than the drachmas of Chalcis, Histiaea and the Euboean drachmas such as are in the hoard, all of which from their obverse type must be dated after 368.⁶² Therefore it is probable that Carystus started striking these coins sometime between the Peace of Antalcidas and the battle of Leuctra. Prior to 387 the autonomy of states was not guaranteed; after 371 it is doubtful that Carystus would have begun to strike coins on any other standard than the Aeginetan which prevailed in Boeotia. Possibly 379 to 377 may be taken as the approximate date of the commencement of the issue. The fact that in the record of the Athenian Amphictyony at Delos Carystus is in arrears for interest on loans during the period from 377–373 (cf. note 27) may be construed as evidence that the city needed help in the undertaking of the issue of coinage. The very heavy first issue, attested by the worn obverse dies and the plurality of reverses, shows an immediate need for large numbers of coins. The standard itself which was chosen for these coins is also an indication that the time of the starting of the issue is shortly after 379.

For the standard on which these coins were struck Gardner, in the passage cited in note 57, has the term 'reduced Attic'; Babelon⁶³ implies the same, whereas Head⁶⁴ is in doubt whether it is a degradation of the Attic standard or "its formal abandonment and the adoption of the standard of the coins of Philip of Macedon." The weight norms as

⁶¹ Dittenberger, *Sylloge*³, 157; *IG*, II³, 102.

⁶² Cf. *BMC Cent. Greece*, xv, xvii–xviii, for the time of the Congress at Delphi as the occasion when the influence of the Syracusan coins was most likely to have been considerable.

⁶³ *Traité*, 171–172.

⁶⁴ *BMC Cent. Greece*, lxi.

given by Gardner are 3.60–3.80 grms. for the drachma; the Macedonian standard, used by the Chalcidic League since its inception about 432, and by Philip of Macedon after 359, is 7.29–7.36 grms. for the didrachm (the Carystian stater) and 3.64–3.68 grms. for the drachma. The close correspondence between these weights and those given by Gardner makes it superfluous to call the standard of the Carystian, as well as other Euboean, coins 'reduced Attic.'⁶⁵ The fourth century saw the use of many standards beside the Attic, possibly in a spirit of rebellion against the Athenian currency decree of the fifth century, of which I found a copy at Aphytis and still date 438–423 B. C.⁶⁶ The Aeginetan was used throughout central Greece; the Persian was being used by the Macedonian kings before Philip; Damastion⁶⁷ began its series of coins on a standard which is at present nameless; the Chian-Rhodian held sway in the Aegean: all these in addition to the afore-mentioned Macedonian, which, by 359, was influential enough to cause Philip⁶⁸ to change to it from the Persian when he started his long series of coins.

⁶⁵ Milne, *Greek and Roman Coins*, 81, speaks of the reduction of standards because of the re-use of already coined silver, wear plus minting costs bringing about the issue of coins of less weight than the original norm of the silver acquired. This seems unrealistic, except where the coin is used only as local, and therefore token, currency, for the intrinsic value of the coin determined its popularity; it is questionable whether even local currency would have a face value above its intrinsic value, except at a much later period. In the case of the Euboean coins, we have the tetradrachms on the Attic standard issued early in the fourth century; these show weights no lower than those of the Athenian tetradrachms. We do not know the source of Euboean silver; it may possibly have come from Attica, as the nearest place. If so, it could have come as well in the form of bullion as in the form of struck coins. The Euboean tetradrachms were accompanied by some drachmas, which also have normal weights for Attic drachmas. It is much more probable that there was a change of standard in Euboea about 379, for Carystus at least, and about 368 for the Euboean Confederation coins and possibly those of Chalcis and Histiaea as well, from the Attic to the Macedonian.

⁶⁶ *AJP* 56 (1935) 148–157; Tod, *Greek Historical Inscriptions*, no. 67; *JHS* 69 (1949) 105.

⁶⁷ Cf. May, *The Coinage of Damastion* (1939) v, 12 ff., 15, 32, 99.

⁶⁸ The explanation that Philip chose that standard to make it fit with the Attic standard on which gold was struck seems weak; it is more likely that he saw the relation between the two standards, in the two metals, and chose the Attic for his gold, since he had for commercial and economic reasons been led to adopt the Macedonian standard for his silver.

It is significant that the Chalcidic mint increased its production of tetradrachms in 379 and the years immediately following,⁶⁹ after its defeat by Sparta had made it necessary for the League to secure from outside sources foodstuffs and other materials for normal life. The agricultural areas of Greece, Boeotia and Euboea, would be the most likely and easiest sources of the things the Chalcidic League needed. While, so far as I know, Boeotia never abandoned the Aeginetan standard, it is clear that Carystus, and the other cities of Euboea as well, adopted the standard of the Chalcidic League: in the case of Carystus probably very soon after 379. The production of the League mint between 379 and *ca.* 376, under Asclepiodorus, seems to have been exclusively tetradrachms (cf. note 69), a comparatively short time, but one during which coins for foreign trade, i.e. the larger issues, were the paramount necessity. The Euboean cities, Carystus and later Chalcis, Histiaea and Eretria, provided the small change, in drachmas, and Carystus struck didrachms as well. This denomination was never used by the League, but local conditions probably made its issue advisable. The curious circumstance that no coin of the League, or of Philip of Macedon, is in the hoard is not a telling argument against the use of the Macedonian standard in Euboea; no coin of Chalcis or Histiaea, nor of Boeotia, all of which are nearer Carystus than Macedonia or Chalcidice, entered the hoard either, so the argument *ex absentia* is without force.

Since the coinage of Chalcis, Histiaea and the Euboean drachmas struck at Eretria started after 368 (see below) and continued, at least intermittently, until about the middle of the third century,⁷⁰ it is likely that the presence of the earlier of the thirty Euboean drachmas in the hoard indicates that coinage ceased at Carystus not long after 368. The fabric of the Euboean drachmas is later than that of the Carystian pieces, where the drachmas and Group I staters both are

⁶⁹ Cf. *Olynthus*, 9, *The Chalcidic Mint*, 157.

⁷⁰ This is apparent from the stylistic development. Most authorities give the date 265, when Alexander, son of Craterus, ruled Euboea, as marking the end of Euboean coinage until the time of Flamininus, 197. That coinage is beyond the bounds of this hoard.

markedly scyphate and the dies not fixed. There are no Carystian pieces similar in fabric to the Euboean, until the latter part of the fourth century. Group III has already been dated as late as 313 and after (cf. p. 30) and possibly Group II is as late. I should prefer to date it nearer 323, since the eagles on the Elean staters most closely resembling the elegant cocks on those pieces are dated about that time.⁷¹ A domestic hoard such as this tends to be composed mainly of local coins, whatever the denomination; the reason for the intermission of Carystian coins is unknown, unless it lies in the fact that after 348 all Euboean towns but Carystus were independent.⁷² No self-respecting Carystian would save coins from a city a hundred-or-so miles away if his hometown were issuing coins. The Euboean drachmas fall into seven groups, which are discussed below; not all of these precede the staters of Groups II and III. However, from 368 the Euboean drachmas, those of Histiaea until 340, and those of Chalcis, seem to be the only coins struck in Euboea, although the Carystian pieces undoubtedly continued to circulate, until Carystus again struck staters in the last quarter of the fourth century. Such coins as the family was able to save during that time would be these drachmas, the earlier of which are quite well-preserved showing signs of little circulation before entering the hoard, and the more worn Carystian staters, such as nos. 8, 21, 22, and 25. It is not impossible that the Athenian tetradrachms (nos. 75–80) also entered the hoard at this time. However, their worn condition and their lack of definite date would permit them to have entered the hoard at almost any time prior to its final abandonment.

The real problem of this hoard is the relation of the Carystian and Euboean pieces to one another, and the matter of their dates. As has been pointed out above, the evidence of wear is contradictory to the accepted dates, fabric, style and technique in the case of the Carystian

⁷¹ Cf. Seltman, *Temple Coins of Olympia*, pl. 6, the reverses used with CB, CD, and CE. Seltman dates these obverses 363–343, which seems too early; Babelon is more nearly right in dating them 323–300.

⁷² *CAH* VI, 232.

staters. As will be seen below, the evidence of wear in the case of the Euboean drachmas is likewise contradictory to the fabric, style and technique not only of the drachmas themselves, but of the coins of Chalcis and such other fourth and third century Greek coins as offer legitimate parallels. Therefore, since wear in this hoard is a broken reed on which to lean, no reliance has been placed on it in determining the relative chronology of the Euboean drachmas.

EUBOEA,

FEDERAL COINAGE, MINT PROBABLY ERETRIA

Drachmas on the Macedonian standard, norm: 3.64–3.68 grms.

45. Head of nymph r., in very poor style.

Rev. YΞ above bull's head l., in very poor style.⁷³

Unique dies. Wt. 3.47 grms. 0.015 m. ↑ ↘ Somewhat worn.

46.⁷⁴ Head of nymph r., with earrings and fillet tied at neck, with ends hanging; lips firmly closed.

Rev. EY above filleted bull's head r.; in r. field, lyre.

P 1 A 1 Wt. (uncleaned) 3.81 grms. (cleaned) 3.65 grms.

0.0159 m. ↑ ↑ Somewhat worn.

47. Similar to 46, but ends of fillet tied in bow and lips parted.

Rev. Similar to 46.

P 2 A 2 Wt. 3.50 grms. 0.0161 m. ↑ ↑ Somewhat worn.

48. Die of 47.

Rev. Similar to 46.

P 3 A 2 Wt. 3.58 grms. 0.0158 m. ↑ ↑ Somewhat worn.

49. Similar to 47.

Rev. Die of 48.

P 3 A 3 Wt. 3.70 grms. 0.0165 m. ↑ ↑ Somewhat worn.

⁷³ For an early fourth century coin with these types, cf. *BMC Cent. Greece*, 94, 3, pl. 17, 3, wt. 4.06 grms. (Attic standard).

⁷⁴ I have in my own collection, not from this hoard, two drachmas from the same reverse die as no. 46. One has an obverse die which does not occur in the hoard; the other is from the obverse die of nos. 47 and 48. These provide an additional link in the die sequence.

50. Die of 49.

Rev. Die of 47.

P 2 A 3 Wt. 3.32 grms. 0.0161 m. ↑ ↑ Very good.

51. Die of 49.

Rev. Die of 47.

P 2 A 3 Wt. 3.30 grms. 0.0158 m. ↑ ↑ Good.

52. Similar to 46, but fillet ends tucked under.

Rev. Similar to 46.

P 4 A 4 Wt. 3.29 grms. 0.0153 m. ↑ ↑ Somewhat worn, broken.

53. Head of nymph l., with simple coiffure bound by fillet, and earrings.

Rev. E Y above filleted bull's head r; in r. field, Silen mask.

P 5 A 5 Wt. 3.12 grms. 0.0178 m. ↑ ↑ Somewhat worn.

54.⁷⁵ Similar to 53.

Rev. Similar to 53.

P 6 A 6 Wt. 3.25 grms. 0.0169 m. ↑ ↑ Somewhat worn.

55. Head of nymph l., with hair curved softly back from face, low on the neck and bound by a fillet, a few loose curls escaping.

Rev. E Y above filleted bull's head with hairy ears, r; in r. field, cantharus.

P 7 A 7 Wt. 3.70 grms. 0.017 m. ↑ ↑ Slightly worn.

56. Die of 55.

Rev. Die of 55.

P 7 A 7 Wt. 3.32 grms. 0.0161 m. ↑ ↑ Somewhat worn.

57.⁷⁶ Similar to 55, but much finer.

Rev. Die of 55.

P 7 A 8 Wt. 3.30 grms. 0.017 m. ↑ ↑ Fine.

⁷⁵ *BMC Cent. Greece* 95, 13, pl. 17, 7, is from the same reverse die (P 6), but the obverse, which appears to be by the same hand as A 6, is not the same die. *SNGL*, 3, pl. 33, 1779, has another and very similar reverse die (the description erroneously calls the symbol a bunch of grapes instead of a Silen mask), but the obverse, a fourth anvil die, is not so good as any of the others (A 5, A 6 or the London die). The Paris coin, *Traité*, pp. 197—8, no. 181, pl. 198, 4, is from still another pair of dies.

⁷⁶ From the same dies as *Naville*, 17 (1934) 464.

58. Similar to 55.

Rev. Die of 55.

P 7 A 9 Wt. 3.36 grms. 0.0169 m. ↑ ↑ Somewhat worn.

59.⁷⁷ Die of 58.

Rev. Similar to 55, but bull's ears not hairy and handle of cantharus different.

P 8 A 9 Wt. 3.41 grms. 0.0165 m. ↑ ↑ Somewhat worn.

60.⁷⁸ Die of 57.

Rev. Similar to 59, but cantharus nearer ear.

P 9 A 8 Wt. 3.20 grms. 0.0165 m. ↑ ↑ Very good.

61. Die of 57.

Rev. Die of 60.

P 9 A 8 Wt. 3.11 grms. 0.0169 m. ↑ ↑ Slightly worn, broken.

62. Similar to 58, slight double chin.

Rev. Similar to 59, but bull more melancholy.

P 10 A 10 Wt. 3.34 grms. 0.017 m. ↑ ↑ Somewhat worn.

63. Die of 62.

Rev. Similar to 62.

P 11 A 10 Wt. 3.76 grms. 0.016 m. ↑ ↑ Worn.

64. Die of 62.

Rev. Similar to 62.

P 12 A 10 Wt. 3.41 grms. 0.016 m. ↑ ↑ Somewhat worn.

65. Head of nymph l., with hair simply waved back from face to low chignon.

Rev. E Y above filleted bull's head r; in r. field, bunch of grapes.

P 13 A 11 Wt. 3.15 grms. 0.0165 m. ↑ ↑ Worn.

66.⁷⁹ Head of nymph in style of 65.

Rev. E Y above filleted bull's head r; no symbol.

P 14 A 12 Wt. 3.30 grms. 0.017 m. ↑ ↑ Somewhat worn.

⁷⁷ From the same dies as *Hess*, 202 (1930) 2463.

⁷⁸ From the same dies as *Weber Coll.* 3392.

⁷⁹ From the same dies as *Hirsch*, 14 (1905) 369.

67.⁸⁰ Die of 66.

Rev. Similar to 66.

P 15 A 12 Wt. 3.25 grms. 0.0172 m. ↑ ↑ Worn.

68. Die of 66.

Rev. Similar to 66, but shorter muzzle.

P 16 A 12 Wt. 3.35 grms. 0.018 m. ↑ ↑ Worn.

69. Similar to 66.

Rev. Similar to 68.

P 17 A 13 Wt. 3.32 grms. 0.0162 m. ↑ ↑ Worn.

70. Similar to 66, but profile heavy and hair very plain; necklace.

Rev. Die of 69.

P 17 A 14 Wt. 3.35 grms. 0.0161 m. ↑ ↑ Somewhat worn.

71.⁸¹ Die of 70.

Rev. Similar to 66.

P 18 A 14 Wt. 3.17 grms. 0.0158 m. ↑ ↑ Somewhat worn.

72. Head of nymph l., in very poor style: profile weak and hair in stereotyped strands.

Rev. E Y above filleted bull's head r; in r. field, dolphin swimming.

P 19 A 15 Wt. 3.48 grms. 0.017 m. ↑ ↑ Somewhat worn.

73. Die of 72.

Rev. Similar to 72, symbol almost completely off flan.

P 20 A 15 Wt. 3.16 grms. 0.0164 m. ↑ ↑ Worn.

74. Similar to 72; hair a little coarser.

Rev. Die of 73.

P 20 A 16 Wt. 3.25 grms. 0.017 m. ↑ ↑ Somewhat worn.

⁸⁰ From the same dies as *BMC Cent. Greece*, 95, 8, pl. 17, 6, of which Head remarks on the earring as being of a later style than that of no. 7, a coin not represented in the hoard. From the same dies also, *McClean Coll.*, 2, 5705, pl. 205, 7; in this specimen the punch die is not yet damaged at the bull's right eye as on the others.

⁸¹ From the same dies as Boston, 95. 133.

DIE SEQUENCES

Lyre symbol					Silen mask symbol		
P 1	P 2	P 3	P 3	P 2	P 4	P 5	P 6
46	47	48	49	50,51	52	53	54
A 1	A 2	A 2	A 3	A 3	A 4	A 5	A 6

Cantharus symbol							
P 7	P 7	P 7	P 8	P 9	P 10	P 11	P 12
55,56	57	58	59	60,61	62	63	64
A 7	A 8	A 9	A 9	A 8	A 10	A 10	A 10

Bunch of grapes						
symbol	No symbol					
P 13	P 14	P 15	P 16	P 17	P 17	P 18
65	66	67	68	69	70	71
A 11	A 12	A 12	A 12	A 13	A 14	A 14

Dolphin symbol		
P 19	P 20	P 20
72	73	74
A 15	A 15	A 16

The year 368 B.C. is of considerable importance in the numismatic history of Greece. In that year, the Congress at Delphi reinforced the autonomy of cities, already agreed upon at the time of the Peace of Antalcidas (387). A number of Greek cities thereupon began striking their first coins or resumed coinages which had been interrupted. Chalcis began again to strike coins, the first since ca. 507, when it was conquered by the Athenians; Histiaea struck its first coins and the

mint of the Euboean Confederation resumed its federal issue which had ceased some years before: all these coinages were on the Macedonian standard which Carystus had introduced into Euboea ca. 379. There were also a number of cities of central Greece and the Peloponnesus which inaugurated or resumed an issue of coins at this time (cf. below note 83). Comment has already been made, *passim*, by all numismatists on the imitation of the Syracusan tetradrachms in the style of Evaenetus by the various cities of Greece which started or resumed coining a little before the middle of the fourth century. Head⁸² says, "All these. . . imitations of Syracusan coins are to be accounted for not so much by the political influence undoubtedly exercised by Dionysius (who was present at the Congress) in Central Greece, as by a considerable influx of Syracusan money at this period, in payment of various mercenary troops sent into the country by Dionysius in support of his Lacedaemonian allies." May not aesthetic appreciation of the art of Evaenetus have had an influence, apart from political considerations? Seltman, *Greek Coins*, pl. XXIV, 3, shows the fifth century decadrachm signed by Evaenetus from which the fourth century coins were copied; pl. XLIV, 4-7, show the Syracusan copies, ranging in date from ca. 380 to ca. 350. No die cutter's name appears on these coins and it is improbable that Evaenetus made them.

The coiffure of the nymph seems to be in a fashion peculiar to the West, although it was not originated by Evaenetus. Seltman, pl. XXII, gives a number of tetradrachms, dating from 474-413, showing a variety of coiffures, most of which can be paralleled from vases and statues. However, nos. 10-12, signed Sosion, Euth. and Phrygillus, and Evaenetus, show variants of a new mode, where the hair is pulled back and up loosely, then coiled softly over a confining band, which must have been placed on the head before the hair was drawn up. (It is close to the style of no. 1 in this catalogue.) This mode appears on the coins of south Italian towns in the last third of the fifth century. Cf. Seltman, *Greek Coins*, pl. XXI, 4 (Terina, ca. 425), 7

⁸² *BMC Cent. Greece*, xvii.

(Neapolis *ca.* 430), and 13 (Cumae, *ca.* 430). No. 5. on the same plate, also a coin of Terina, shows clearly how Evaenetus took the simple mode of no. 4 and softened the rather severe outline with a profusion of escaping ringlets. On the Syracusan pieces, the added grain wreath further relieves the simplicity. It is this style which was copied far and wide.

While some of the coins with such a head may have reached Greece earlier than 368, so long as the various cities were not free to strike coins until that time or shortly before, it must be concluded that those coins which show an adaptation of this style are to be dated 368 and after.⁸³ In the borrowing the style is modified, the grain wreath is often omitted and the hair bound merely with a fillet, or not at all. The results achieved in various places reflect the relative skill of the copyists: at Opuntian Locris, the die cutters were among the most successful; at Chalcis and some of the other cities listed in note 83, the copies were somewhat less successful than the model.

While the manner of the adoption of this type was undoubtedly peculiar to each city that adopted it, one can see the course of events in the Euboean confederation. Prior to 387, that organization struck, on the Attic standard, among other denominations, drachmas having as types the head of a nymph with her hair rolled up in a fashion not too unlike the early Syracusan, to which no. 1 in the hoard is related, and the head of a bull with the letters EY above.⁸⁴ After that coinage ceased, the next drachmas were on the Macedonian standard, but

⁸³ The cities of the Peloponnese and Central Greece, many of which had had little or no coinage prior to the fourth century and thus had no traditional types to employ, were the ones who adopted the Syracusan type for a local divinity or nymph. The coin of such cities, Opus (whose small coins show a head very like the earlier Euboean drachmas, cf. Babelon, *Traité*, pl. 206, 19, 21) Thespieae, Messene, Pheneus, to say nothing of the Euboean cities, Chalcis and Histiaea, are illustrated in all collections; Seltman, *Greek Coins*, plates, *passim*, gives examples of most of them except the Euboean, since he omits all reference to fourth century issues of that island. The spread of the type is attested by its appearance on the coins of Aptera in Crete, Sinope on the Black Sea, Lampsacus, Dicaea in Macedonia (bronze), Carthage, Massilia and Rhodes.

⁸⁴ Cf. note 73.

continued the same types. The change from the earlier style to the later was effected with the aid of a foreign artist, as can be seen from a comparison of the hoard coin, no. 45, with the *B.M.C. Cent. Greece* specimen, p. 95, no. 7, pl. XVII, 5. No 45 is a unique specimen in a style that is either early or crude⁸⁵: it cannot be early because its weight (3.47 grms.) shows that it is on the Macedonian standard. It therefore is crude. The nymph's head is coarse, with heavy profile and unintelligible hair; it is hard to be sure a female head is intended. The bull's head, small, unfileted, poorly executed, is to the left and the letters are retrograde. There is no possibility that this is a forgery: it is too unlike the others to have passed current as an ancient forgery; it is not a modern one, for it was covered with the same heavy purplish incrustation as the other coins in the hoard and its type was not distinguishable before cleaning. It does not have fixed dies like the other hoard drachmas. The flatness of the reverse argues against its being as early as the Carystian drachmas, whose cup-shaped reverses have already been noted. It must be concluded that this is the only⁸⁶ remaining specimen of a type issued by the Euboeans, about 368, when they again struck coins after a lapse of some twenty years. The die-cutter had obviously been out of work for some time; desuetude has left its mark in the execution of the hair and features on the obverse and in the complete reversal of the type on the reverse, with the retrograde letters. Or, alternately, a person with no experience in cutting dies, trying to copy the earlier type, would be likely to achieve such a result as is embodied in no. 45. Dissatisfaction with this result led the Euboeans to employ the services of a minor "master," for the London coin cited above is in the best style (cf. note 85). The

⁸⁵ The recent, pertinent and extremely sagacious remarks of C. H. V. Sutherland (*ANS Mus. Notes* 4, 1—12) illustrate the dangers of relying solely on style and disregarding such other features as fabric and technique in dating coins. The hoard specimen, no. 45, is an excellent example of a coin in very poor style, the work of an incompetent craftsman, which must be dated considerably later than its appearance alone would warrant.

⁸⁶ This rash statement is buttressed by the opinion of Prof. William Wallace, who is making a study of Euboean coinage; he knows of no other like it.

maker of this die used the Syracusan head as his model, even to the necklace and earring; the treatment of the hair is simpler and neater than on the coins of Opuntian Locris and that of the features and profile is quite as fine. That he was no mere copyist is clear (a) from the fact that he was not slavishly bound to retain the orientation of the model (the heads on all the earlier Euboean coins had been turned to the right) and (b) from his simplification of the hair, which is far more suitable to the small size of the flan than a more elaborate arrangement would have been.

It is questionable whether he made more than the one obverse die, since the London specimen seems to be the only one published. He also made the reverse die for the same coin, where the bull's head is for the first time filleted; the artist's individuality appears in his delineation of the texture of the bull's hide, by means of a delicate use of the drill. This reproduction of texture, so far as I know, does not occur on any other coins where the bull, or his head or protome, is the type.⁸⁷ The nearest approach to it is on coins of Phocis: *SNGL*, III, pl. XXXII, no. 1709, and Seltman, *Greek Coins*, pl. XXXIV, no. 4. This series was struck after 357, when the Phocians gained possession of the sanctuary at Delphi; the occurrence of the lyre as symbol on the Phocian coins is, of course, to be connected with that seizure. The attractive young animal on the Euboean coins, with his muzzle lifted to sniff the incense at the altar to which he is being led, has a pedigree at least as long as that of the cocks on the Carystian staters.

The new style,⁸⁸ once established, was interpreted thereafter by local artists. The two coins just discussed, without any symbol, probably were issued near or shortly after 368; possibly little more than a year separated them. The "lyre" drachmas may be presumed to have started in 367 or 366. The heads are in a style inferior to that of

⁸⁷ Cf. the coins of Acanthus, recently studied by Desneux, "Les Tétradrachmes d'Akanthos," *Rev. Belge de Num.*, 95 (1949); Sybaris, Siris and Pyxus (Seltman, *Greek Coins*, pl. 14, 3,4); Thurium (Noe, *The Thurian Di-Staters*, Num. Notes and Monographs No. 71); Phaestus and Gortyna (Seltman, pl. 36, 13 and 38, 1-4); Byzantium (Seltman, pl. 41, 1 and 2), to say nothing of the other Euboean coins.

⁸⁸ Style here refers to the manner of arranging the hair.

the London coin: the earring is different and the necklace has been omitted; the coiffure has been simplified and regularized to a point where only one or two tendrils are allowed to escape from the sleek arrangement of the locks.⁸⁹ Probably the anvil dies of nos. 46–51 were all cut by the same artist for there are only minor differences. The die of no. 52 is better, particularly in the treatment of the eye and profile; possibly this should have been placed first in the series, as being closer to the London coin; since it is not linked to the rest, it has been put at the end. The lack of a link between no. 46 and the following coins is only apparent, for in my own collection, unpublished, I have two coins with the same reverse die (P 1), one of which has A 2 for the obverse and the other has an anvil which does not occur in the hoard. (Cf. note 74.) The reverses of these coins fare no better in a comparison with the London coin than the obverse: the bull is filleted, as on that coin, but he is a sad-faced, weary creature, with lowered muzzle.

From the number of dies in the hoard, (4 anvil and 4 punch dies, a fifth anvil being used on the coin in my collection mentioned above) it is not possible to determine the length of time during which the lyre was used as a symbol.⁹⁰ On other grounds it is possible to suggest that this symbol, if it has a political significance, went out of use shortly after the accession of Philip II to the throne of Macedon, since in 357 the Euboean towns joined the Athenian Confederacy, sending deputies to Athens, Histiaea, Chalcis and Eretria being separately assessed. The two former cities were striking coins independently of those of the Euboean federation, to which apparently Carystus be-

⁸⁹ The heads on some of the Locrian Opuntian hemidrachms are very similar: cf. *McClean Coll.* 2, pl. 198, 11–16 and *SNGL* 3, pl. 32, 1697–1701, 1703, as are some of those of Chalcis: cf. *McClean Coll.* 2, pl. 204, 2 and *SNGL* 3, pl. 33, 1787, 1788 and of Histiaea: cf. *McClean Coll.* 2, pl. 205, 18, 19 and *SNGL* 3, pl. 33, 1796.

⁹⁰ This symbol was not known to Head, either in the *BMC Cent. Greece* or in the *Historia Numorum*, even in the second edition in 1911, nor to Babelon in the *Traité*, 1914. Prof. Wallace informs me that he has 29 specimens, although the only published specimens he knows are Copenhagen *SNG*, 484, the *University of Colorado Cat. of Greek and Roman Coins*, no. 93 and Weber 3393, which in the text is described as having no symbol. It was known to Madame Varoucha in 1941. Cf. *Epitymbion Christou Tsounta* (Athens, 1941) "Ptolemaic Coins in Greece," 672.

longed at this time;⁹¹ their coinage neither ceased nor changed to the Attic standard. The influence of the Chalcidic League in causing the use of the Macedonian standard in Euboea has already been mentioned in the discussion of the Carystian staters; that the cities of Euboea adopted it in 368 attests its continued importance. Between 368 and the accession of Philip, Athens, which had concluded a treaty with the Macedonian king in 371–370, was making a series of attempts to regain Amphipolis, a course of action which could only further alienate the Chalcidians. It seems quite probable that the tiny conventionalized lyre on this first series attests an even closer connection between Euboea and the League during the period between 367/6 and 357 than can be assumed for the period about a decade earlier (i.e. following 379) when Carystus was the first Euboean city to use the Macedonian standard. The drachma of Chalcis with the countermark of the lyre and the letters I + N, first discussed by Babelon⁹² and catalogued in the *Traité*, pp. 185–6, under no. 161, which he has identified as having been countermarked by the city of Ichnae about the middle of the fourth century, serves as an indication that the lyre was more than a local coin-type with only a religious significance. Ichnae, situated between Olynthus and Pella, was a part of the Chalcidic domain at least as early as 383 B.C., for Cleigenes, a member of the embassy from Acanthus and Apollonia to the Lacedaemonians, said in his speech at Sparta⁹³ that Olynthus was then in possession of Pella, among other cities. From this countermark on the drachma of Chalcis, by a city associated with Olynthus, we can conclude that the lyre on the Euboean drachmas indicates a rapport between the island

⁹¹ One is led to this conclusion by a consideration of the fabric of the two series: the Carystian pieces were deeply rounded on the reverse and the dies were not fixed; the Euboean drachmas are almost flat and the dies are fixed with such precision that on many the point at the front or back of the neck marks the line of the axis. The Histiaeian and Chalcidian coins resemble the Euboean drachmas in fabric. It would be surprising not to find a single coin of Chalcis in this hoard, since both Chalcis and Eretria were approximately equidistant from Carystus, if there were no political reason for the Carystians to use the coins from Eretria instead of Chalcis.

⁹² *Rev. Num.*, 1905, pp. 388 ff.; *Mélanges numismatiques*, 4th series, pp. 147–154.

⁹³ Xenophon, *Hell.* V, 11 ff.

and the League, whose name, whatever the nationality of the people, would provide a strong bond of sympathy with the people of the island. This close association is best dated between 368 and 357, the period when Athens and the League were not working toward the same ends, and before the cities of Euboea joined the mid-century Athenian Confederacy.

Nos. 53 and 54, with a facing Silen mask as symbol, are the only hoard representatives of the group which succeeded to those with the lyre. The London specimen is from the reverse die (P 6) of no. 54, but the obverse is not A 6; the Lockett and Paris coins (see note 75) add a fourth reverse and fifth obverse to the dies with which I am acquainted. This makes it possible to suggest that coins with the Silen mask symbol were struck in about the same numbers as those with the lyre, of which I have been able to find four reverse and five obverse dies, or if not in the same numbers, at least over a comparable length of time. The nymph on the two hoard specimens is the immediate successor to the one on no. 52. She has even plainer earrings, her fillet has no bow at the nape of the neck and her hair is rather more simply done, although still in the "Western" style.⁹⁴ The head is for the first time facing left, an orientation which persists through the subsequent series, although on the coins of Histiaea the change is never made. The bull is brother to those on nos. 46-52.

Since they are immediate upon a series which ended in 357, and since the period between 357 and 350 was characterized by a close association with Athens, it is logical, granting a political significance to the symbols, to seek a meaning connected with Athens for the use of the Silen mask. The extreme rarity of a Silen mask, even as a type, although a satyr or Silen himself occurs on the coins of various cities,⁹⁵

⁹⁴ The rapid deterioration of the copies of the Syracusan heads is seen on the coins of the cities which used the type for more than a brief period. Chalcis in particular, reaches an apogee of ugliness in the heads on such coins as *McClean Coll.* II, pl. 20 4,4-7.

⁹⁵ Cf. the archaic staters from the Thracio-Macedonian area, some attributable to Thasos or Lete, and others unassigned, with nymph and satyr; the satyr on the ass at Mende; the seated satyr at Naxos. Thasos, before 350, struck small coins with a janiform satyr's head, as well as a satyr holding a cantharus (*McClean Coll.* II, pl. 152,

argues a *recherché* reason for its use at this time. Rather hesitantly I put forward the suggestion that we have here a reference to the Dionysia at Athens: in the fifth century this was the season at which the tribute was paid; it probably continued to be the appointed time in the fourth century, when the Euboean cities, voluntarily rather than under compulsion, were paying tribute to Athens. While the symbol is none too clear on the coins, and the parallels cited do not give much more detail, the bald elderly satyr is always Silenus. Miss Bieber in *Die Denkmäler zum Theaterwesen im Altertum*, pp. 90–91, states that the Satyr-play in the fourth century was performed, not following the three tragedies, but quite separately at the beginning of the celebration of the Greater Dionysia. As Papposilenus was the leader of the satyr crew, it seems at least a workable hypothesis that the mask on the coins refers to the time of the collection of the tribute, the prominent position of the Satyr-play making the choice of that mask instead of a tragic one a readily recognizable allusion. Since Athens recognized the independence of all of Euboea except Carystus in 348, the symbol would have been abandoned at that time, if it had not already been in 350, when Athens was betrayed by Plutarch at the battle of Tamynae.⁹⁶

The years following, up to the battle of Chaironeia, saw a succession of “tyrants” in the Euboean cities, with factional strife between pro-Macedonian and pro-Athenian parties. The somewhat later style of the remaining Euboean drachmas leads to the conclusion that there was an interruption of an indeterminate number of years between nos. 54 and 55. The coiffure of the nymph is no longer in the “Western” style, but in one which reflects the sculpture of the latter half of the fourth century and which continues into the Hellenistic period. It has already been remarked that the coiffure made popular by Evae-netus had no parallels on vases or sculpture in the fifth century. The

5—9). From Macedonia, probably under the Romans, comes a bronze with a fine satyr mask: Gaebler, *Die Antiken Münzen Nord-Griechenlands*, III², p. 8, 6, pl. III, 12; for an illustration of a better coin, see the *Berlin Beschreibung*, II, pl. 1, 10.

⁹⁶ Aesch. III, 86 ff.; Plut. *Phoc.* 12 ff.; *CAH* 6, 231–232.

vases show an amazing variety, ranging from loose-tressed Maenads to heads bound with all manner of fillet, ampyx, sphendone or stephane.

Sculptured heads were dressed more simply. Starting, somewhat arbitrarily, with the Lemnian Athena,⁹⁷ one finds the hair drawn down over the brow and bound with a fillet; the hair of the Amazons was drawn down over the ears from a center part; the *Terme* Niobid's hair is quite similar, with a broad fillet high on the head. A modification of this style is dimly apparent in the battered heads of the Phigaleia frieze and becomes clearer in the coiffure of Eirene holding the infant Ploutos. Here the hair is curled back from the face to form a heavier frame for it. By the middle of the fourth century, probably under the influence of Praxiteles, although he may only have refined an existing fashion, the hair, still parted in the middle, was drawn away from the center of the brow before being brought back over the tips of the ears, as for example on the Cnidian Aphrodite and Demeter, both of which are dated very close to 350. A further and later modification resulted in retaining the triangular brow framed by the hair, but in coiling the hair loosely back over the sides of the head and tips of the ears. The Aphrodite of Arles, the Sarcophagus of the Mourning Women from Sidon, the Tyche of Antioch, to name but a few, show various forms of the modifications of the hair style of the two Cnidian statues.

Turning to the drachmas, those with the cantharus as symbol, nos. 55-65, pls. 4 and 5, show some beautiful examples of this mode, which seems on the coins to have developed easily from the "Western" style. For example, nos. 55 and 56 have only slightly modified the coiffure of no. 54, lowering the hair at the back to form a chignon, while curl-

⁹⁷ The 1950 edition of Richter, *The Sculpture and Sculptors of the Greeks*, furnishes ample illustration of these statues: Lemnian Athena, fig. 614; Amazons, (Mattei) fig. 620, (Capitoline) figs. 626 and 627, (Berlin) fig. 655; *Terme* Niobid, fig. 196; Phigaleia frieze, figs. 198, 202, 204; Eirene and Ploutos, fig. 659; Cnidian Aphrodite, figs. 668 and 671 (cf. fig. 669); Cnidian Demeter, fig. 315; Aphrodite of Arles, fig. 685; Head from Kos, figs. 687-688; Sarcophagus of the Mourning Women from Sidon, fig. 316; Girl in the Goldman Collection, fig. 207; Mausoleum Amazon, fig. 209; Boston head from Chios, fig. 174; Tyche of Antioch, figs. 753 and 754. There are many others.

ing it away from the face instead of drawing it back loosely. The following coins, nos. 57–64, show individual artists' treatment of the fashion, with varying degrees of elaboration in the matter of vagrant tresses, and finally with some deterioration of quality in nos. 63 and 64. The style is clearly later than on nos. 46–54. No. 65,⁹⁸ pl. 5, is very close to nos. 63 and 64. The succeeding coins, nos. 66–71, with no symbol, show a dullness and triteness in the treatment of the hair. The last two, nos. 70 and 71, have added a necklace for the nymph's adornment; she is made no more beautiful thereby. The last three hoard drachmas, nos. 72–74, pl. 5, show a marked degradation of style. The hair has become merely a series of regular lines and there is none of the subtlety of planes that was evident on the other heads. In addition, the modeling of cheek, profile and chin is weak and flat, a feature Madame Varoucha had already remarked; she considered it a further indication of the late date of the coins with the dolphin symbol.⁹⁹

Since the change in the style of coiffure from the head on the Silen mask series to that on the cantharus series reflects a mode not far from the middle of the fourth century, there is nothing to impel one to infer any interruption of the Euboean drachmas. However, it is perhaps better to conclude that in that confused period between 348 and the final conquest of Greece by Philip in 338 there was some time in which no coins were struck. Newell¹⁰⁰ has made it clear that an issue of Histiaean octobols was struck between 340 and 338. These, on the Attic standard because of the close association with Athens in 341–340, are in style so close to the Histiaean drachmas on the Macedonian standard that Newell believes the same artist cut the dies. Now, the hair on the nymph of the Histiaea coins, although bound by a sphendone or ampyx, shows a change from the "upsweep" of the

⁹⁸ The Paris specimen with the same symbol, *Traité*, 197–8, no. 181, pl. 198, 3, is not from the same dies but shows the same coiffure done by a better artist.

⁹⁹ *Loc. cit.* (*supra*, note 90).

¹⁰⁰ Newell, *Octobols of Histiaea* (Num. Notes and Monographs No 2). There were also some smaller pieces in the same series.

drachmas to the rather patterned waves back from the brow, which has already been marked on the Euboean drachmas. Cf. *B.M.C. Cent. Greece*, pl. XXIV, 1, 2, 6 and Newell, *op. cit.* (*supra*, note 100), pl. I, 1, 2, 3, 4. The nymph of A 8 (nos. 57, 60, 61) is in as fine a style as that which Newell shows the Histiaeian octobols to be. While all the heads do not attain to the excellence of A 8, the coiffure, even to the detail of the few escaping locks, is the same. As it is not safe to "pinpoint" the date of any coinage without specific historical data, and as there remain, to the best of my knowledge, about the same number of dies for the cantharus series as for the lyre and Silen mask drachmas, provisionally they may be dated following 340,¹⁰¹ after a period during which the factional strife in Euboea interrupted the regular emission of coins. The conquest of the island by Philip and the installation of his garrison at Chalcis (one of the 'three fetters of Greece') have in the past been taken as a sign that all the island's coinage ceased at that time; more recently it has been established that neither Philip nor Alexander had a mint there¹⁰² and that consequently the issue of Euboean coins, particularly the small denominations, after 338 is probable, in view of the fact that Philip chose to interfere as little as possible with the internal affairs of states.

The significance of the cantharus, which is the symbol on these coins, is as esoteric as that of the Silen mask. It appears on the coins of a great many places as type or symbol at all periods¹⁰³ and seems to be a reference to viniculture or the worship of Dionysus. That Euboea produced wines is attested by the use of bunches of grapes as type or symbol by various cities;¹⁰⁴ the location of the theater at Eretria was

¹⁰¹ The beautiful head of Demeter on the staters struck at Delphi in 336 (cf. Raven, E. J. P., *Num. Chron.* 1950, p. 5) though it has the hair hanging and partially concealed by a veil, shows a similar contemporary treatment of the hair about the face.

¹⁰² Cf. Newell, *Alexander Hoards, II: Demanhur*, 1905, (Num. Notes and Monographs No. 19) 13, where the European mints are located in Macedonia and the Peloponnese.

¹⁰³ The cantharus as a type on coins of Naxos, Mende, Melos, Cetriporis, Alopeconesus, Peparethus, Corcyra, Boeotia, Thebes, Thespieae, Andros, Aphytis; as a symbol: Aenus, Maroneia, Mende, Thasos, Philip II and Alexander III (mint of Amphipolis).

¹⁰⁴ Cf. coins of the late fifth century Confederation, Eretria, and Histiaea.

found to be dependent upon that of a slightly earlier temple, which has been taken to be a temple of Dionysus.¹⁰⁵ However, the cantharus is used only on this particular group of coins instead of generally, which argues for a peculiar significance. Now, on the coins of Philip of Macedon, minted at Amphipolis subsequent to 356, there occurs a cantharus occasionally as a symbol below the body of the horse; the same symbol is used on Alexander coins from that mint.¹⁰⁶ The reason for it escapes me, since I can find no reference to one of the independently issued Amphipolitan coins having that symbol. Why the Euboeans should choose that symbol rather than one of the many others which Philip used is another phenomenon for which I can offer no explanation. It may be suggested that about 340 a pro-Macedonian tyrant chose this symbol to mark, somewhat obscurely because of the symbol's apparent reference to Dionysus, his loyalty to Philip. On this hypothesis there would be time for the coiffure of the statues mentioned above to become known to the die cutters and a short enough interval after the other two series for the quality of the reverses not to have deteriorated.

The next symbol used must have been the bunch of grapes, represented in the hoard by a single specimen, no. 65. It is hard to tell, from one coin, whether the rather hard profile and stereotyped hair on the obverse and the undistinguished bull on the reverse are the product of an inferior artist or the result of a lapse of time. The rather commonplace symbol¹⁰⁷ indicates its decreasing importance, I believe, and its use may have been as a result of the ambiguous cantharus on the preceding series. The latter's connection with Dionysus was so obvious that it rendered obsolescent the remote Macedonian connection in the years following, say, 335, when political events were far

¹⁰⁵ Cf. *AJA* (1891) 233—280; (1895) 326—346, for a description of the American excavations at Eretria.

¹⁰⁶ For Philip II, cf. Seltman, *Greek Coins*, 202 and pl. 46, 11; Gaebler, *op. cit.* (*supra*, note 51) pl. 30, 42. For Alexander cf. Newell, *Demetrius*, 27, nos. 247—253, and 65—71.

¹⁰⁷ The bunch of grapes as a type on coins of Mende, Maroneia, Corcyra, Opus, Tanagra, Carthea, Tenos; as a symbol: Naxos (with cantharus as type) and Mende.

off and Greece was almost somnolent. The bunch of grapes was a clear reference to Dionysus and had no political meaning.

The coins which have no symbol further reflect the lack of interest in political affairs: here quite clearly no political events were important enough to be recorded on the coins. The dies are quite uninspired and bear no resemblance to the earlier drachmas without symbol, no. 45 and the London coin. The coiffure of the nymphs has already been shown to be later than that on the cantharus drachmas. A 12, nos. 66–68, is the best and shows clearly how the coils of hair at the sides of the face come to be more sharply differentiated from the hair on the top of the head and from the chignon; the curious thick lock above the ear is an enlargement of that on such a head as no. 64. These heads are the embodiment of neatness; not a lock escapes from its place. The head of no. 69, which is connected by its reverse with no. 70, is in the same style; the artist has delineated eye, cheek and profile more successfully. Nos. 70 and 71 show a marked degradation, being the least attractive heads of the lot. The bulls are so nondescript that they must have been depicted at a time when the “land of fair cattle” had been stripped of its blooded stock: a sorrier lot of animals one would go far to see. During the years following the death of Alexander, when the world was in turmoil and all parts of Greece were scenes of battle, very likely livestock was slaughtered in quantity to supply food for the soldiers, and Euboea was bound to suffer in that respect. These coins are to be assigned to the last quarter of the fourth century, possibly following the Lamian War.

There seems no longer any support for the theory¹⁰⁸ that there was a general interruption of autonomous Greek coinage following 338. There is no indication from the Euboean drachmas that any cessation of their coinage occurred between 338 and 313, the date of the liberation of Greece from Cassander. In the case of the Carystian staters,

¹⁰⁸ Cf. Head, *BMC Cent. Greece*, (1884) Introduction, *passim*; *Traité* (1914) 172–3, and Gardner, *Hist. Anc. Coinage*, 426–7, for the gradual realization that Philip made little or no change in autonomous Greek coinage; Seltman, *Greek Coins*, does not even discuss the matter.

fabric and mint technique point to an interval between Group I and Groups II and III. The addition of the monogram is the only essential difference between the latter two Groups. The last Group had already been assigned to the period following 313 by Head, who apparently did not feel that Carystus' assistance to Athens in the Lamian War (323–22) presupposed an issue of coins, and later by Babelon (cf. note 40) who assigned both Groups I and II to the period between 369 and 338. I should be more inclined to place the staters of Group II, as well as Group III, after 313 for a number of reasons: 1. the fabric and technique of those two Groups is nearly the same and quite different from Group I (cf. above pp. 23, 30, 34); 2. the use of a monogram, although it had occurred earlier in the fourth century sporadically, is characteristic of the Hellenistic period; 3. the presence of the Euboean drachmas in a hoard from Carystus argues for a lack of local coinage. The coins of Groups II and III seem to be considerably rarer than those of Group I, indicating a shorter period of production; such an indication may be contradicted at any time by the appearance of more coins. Appearing first in 313, they may have continued until 265 as Head suggests, followed by Babelon, but in view of the contents of the hoard, they probably ceased at the end of the fourth century.

The connection of the dolphin, the symbol on nos. 72–74, with Demetrius Poliorcetes has already been suggested by Madame Varoucha in the article cited in note 90. The great difference in quality between these coins and those preceding makes one hesitate to conclude that they followed directly upon them. Their very flat style and banal treatment of the hair, as well as the extremely sketchy delineation of the bull, places them in the third century when the coins of other cities show a similar deterioration.¹⁰⁹ It is better to admit a lapse of time between the last three hoard drachmas and the others, although there may be other coins with the dolphin symbol whose style and fabric would serve to bridge the gap and make it possible to conclude that this symbol was used over a longer period of time than any of the

¹⁰⁹ Cf. the third century coinage of Chalcis and Histiaea, to mention only those nearest to Euboea, and note 99.

others. These dolphins scarcely deserve to be dated before 294, when Demetrius became king of Macedon, and probably came to an end in 265.

Although the relative dates of the Euboean drachmas would remain unchanged thereby, it must be recognized that there is the possibility that these changing symbols have no political meaning. Influenced by the suggestion of Madame Varoucha that the dolphin, the latest symbol, had such a meaning, the same thing has been sought for the others. The fact that, as far as I know, there is no linking obverse die from one symbol to the other, a curious fact in itself, since none of the obverse dies is much worn, rather supports the political theory of the symbols; it argues separate occasions for each issue, rather than a regular succession with symbols honoring various deities. However, leaving out of account the dolphin (which of course could be a reference to Poseidon, albeit an unusual one), it is possible that the lyre, Silen mask, cantharus and bunch of grapes were purely religious in intent. The worship of Apollo Daphnephorus at Eretria was of long standing; the appearance of the lyre as the first symbol after the Congress at Delphi would doubly honor the god, for his local importance, and for the freedom the Euboeans, along with others, gained under the shadow of his temple at Delphi. The other three are plausibly Dionysiac, the last named being commonly used, not only in the various cities of Euboea but generally throughout the ancient world, by such places as were proud of their wines, or had another association with Dionysus.¹¹⁰ The other two are not so frequent, but are found, particularly the cantharus, on issues where other honors are paid Dionysus. They appear most frequently in the north, more often in Thrace than in Macedonia, but the cantharus at least is found as far south as Boeotia.¹¹¹ As the worship of Dionysus was introduced through the north, the earlier northern use of Dionysiac types and symbols is not surprising. Given the Eretrian temple and theater of Dionysus, assuming a religious significance for the symbols, the fact

¹¹⁰ Cf. note 107.

¹¹¹ Cf. notes 95 and 103.

that they are used in the fourth century at Eretria can be taken to indicate that close association with the north made the adoption of symbols used hitherto almost exclusively in the north a simple enough matter. Such an interpretation gives no clue to the dates of issue of the various symbols, but, as has been stated, their relative chronology remains unaffected.

ATHENS, FOURTH CENTURY

TETRADRACHMS

75. Helmeted head of Athena r., partly off flan.
Rev. Owl r., on branch; in l. field olive spray and waning moon; in r. field AΘE
Wt. 16.50 grms. Very worn.
76. Similar to 75.
Rev. Similar to 75.
Wt. 16.40 grms. Very worn.
77. Similar to 75.
Rev. Similar to 75.
Wt. 16.50 grms. Very worn.
78. Similar to 75.
Rev. Similar to 75.
Wt. 16.31 grms. Very worn.
79. Similar to 75.
Rev. Similar to 75.
Wt. (uncleaned) 17.31 grms.¹¹²
80. Similar to 75.
Rev. Similar to 75.
Wt. (uncleaned) 17.45 grms.

¹¹² These coins have been left uncleaned to preserve the incrustation, on the chance that other coins from the hoard may appear.

These Athenian tetradrachms, the grotesque fourth century type with a profile eye on the obverse and the caricatured owl on the reverse, add little but numbers to the hoard. No attempt has been made to identify dies. They offer the negative evidence of date in that they lack the symbols which appeared on the reverse of a few rather rare old style tetradrachms. Those with the symbols are assigned to some period later than the Lamian War,¹¹⁸ which leaves the remainder of the fourth century, probably after 394, for such tetradrachms as these in the hoard. They may have circulated in Euboea after 357 (see above p. 48); the date of their entrance into the hoard must be considerably later, judging from their worn state. It may be conjectured that in the interval between the earliest group of Carystian staters and the two later ones (i.e. *ca.* 370 and 313) these were the only large coins circulating in Euboea and that they entered the hoard during the latter part of that time.

ELIS, FOURTH AND THIRD CENTURIES

81. Laureate head of Zeus r.

Rev. Eagle standing r., on rocky prominence; in l. field F, in r. field A and horizontal fulmen.

Wt. 11.40 grms. Slightly worn.

82. Laureate head of Zeus r., in later style than 81.

Rev. Eagle standing r., on Ionic capital; in field l. and r. F A.

Wt. 11.62 grms. Somewhat worn.

These two staters are from dies unpublished in Seltman, *The Temple Coins of Olympia*. No. 81 is very like his CB (Group G, Series XX, pl. VI) except that the hair at the nape of the neck does not end in such ringlets; the reverse is unlike any of his, not only in Group G, in that the eagle is standing on what looks like a heap of rocks. The coin is clearly a member of Group G, which is the only one with the

¹¹⁸ Cf. Head, *H. N.*², 375; Gardner, *op. cit.* (*supra*, note 27) 366; *Traité*, 119—120; Seltman, *Greek Coins*, 260.

horizontal fulmen. Seltman assigns these to the years 363–343, Babelon to 323–300. Newell¹¹⁴ inclines to the earlier date. No. 82 indicates a closer connection between Seltman's Group G and his Group K than he intimates, for the obverse is like his DA (pl. VII) except that the beard ends are mere lines and the hair at the nape of the neck is brushed out from the head. A somewhat similar treatment is seen on his CV (Group J, pl. VII) and foreshadowed in Group G, CK, CL, CN, CF (pl. VI). The reverse of no. 82, without a symbol, has the Ionic capital as a footrest for the eagle, which appears only in his Group G, although this die is not there. The coin is more worn than no. 81: another hoard instance of the date not being indicated by the amount of wear on coins in this hoard. His Group K dates from 273–191, Group J from 323–271; no. 82 therefore should be dated near the end of the fourth century or the beginning of the third. The eagles on both the staters are of the style which the Carystian cocks of Group II and III emulate. These coins may record a trip to Olympia by some member of the family, or they may have reached Euboea through Boeotia where they would circulate easily, since Boeotia used the same standard.

ALEXANDER III

TETRADRACHMS

Mint: probably Amphipolis after 318.¹¹⁵

83. Head of young Heracles r., in lion's skin.

Rev. Zeus Aetophorus seated l., holding scepter, r. foot drawn back; in r. field ΑΛΕΞΑΝΔΡΟΥ; in l. field, caduceus.

Wt. 15.41 grms. Somewhat worn.

¹¹⁴ Newell, *Alexander Hoards IV. Olympia*, (Num. Notes and Monographs No. 39) 13.

¹¹⁵ Although this coin is not listed by Newell, and by the position of Zeus' right leg must be a posthumous issue, its attribution to Amphipolis seems certain, since the caduceus is a frequent symbol of that mint. Cf. Newell, *Reattribution*, pl. 2 (XII–10) and pl. 6 (XXXII–6); Robinson, "An Alexander Hoard of Megalopolis," *ANS Mus. Notes* 4, 15, no. 3, pl. 1 and 20, no. 21, pl. 3.

Mint: Babylon, after 317.¹¹⁶

84. Similar to 83.

Rev. Similar to 83; no symbol in field; below chair **PP** in wreath.

Wt. 15.49 grms. Worn.

(Seleucus I)

Mint: Seleucia, 305/4.¹¹⁷

85. Similar to 83.

Rev. Similar to 84; in l. field **PP**

Wt. 11.82 grms. Clipped, slightly worn.

Seleucus I

Mint: Ecbatana, 293–280.¹¹⁸

86. Similar to 83.

Rev. Zeus Aetophorus seated l., on backless chair, holding scepter, r. foot drawn back; in field r. **ΞΕΛΕΥΚΟ(Υ)** at bottom **ΒΑΞ** **ΙΛΕΩΞ**; below chair **ΞΩ**; below eagle **Κ** and anchor.

Wt. 15.85 grms. Somewhat worn.

DRACHMAS

87. Head of young Heracles r., in lion's skin.

Rev. Zeus Aetophorus seated l., holding scepter, r. leg forward; in r. field **ΑΛΕΞΑΝΔΡΟΥ**; n l. field **Α**.¹¹⁹

Wt. 4.20 grms. Somewhat worn.

¹¹⁶ Cf. Copenhagen, *SNG Macedonia*, 2, pl. 22, 835.¹¹⁷ Cf. Newell, *Eastern Seleucid Mints*, pl. 2, 9 and 10. It is in Series I, Group A, 305/4. Newell says (17) of this group that new reverses are constantly turning up.¹¹⁸ Newell, *Eastern Seleucid Mints*, 176, no. 480 ζ, pl. 36 .7, 293–280, Series III, Group A, the first issue with the name of Seleucus.¹¹⁹ I have been unable to find this monogram; probably the coin is to be dated before the death of Alexander, because of Zeus' position.

88.¹²⁰ Similar to 87.

Rev. Similar to 87, but r. leg of Zeus drawn back; in r. field traces of ΑΛΕΞΑΝΔΡΟΥ; below chair Δ

Wt. 3.90 grms. Worn.

89.¹²¹ Similar to 87.

Rev. Similar to 88; in l. field, lyre; below chair Β

Wt. 3.96 grms. Somewhat worn.

Although the tetradrachms have been catalogued first, the earliest Alexander piece is probably the drachma, no. 87; it is the only one which retains the older style position of Zeus. The clipping of no. 85 occurred anciently, for the edge is smooth and not ragged as is the case with those coins whose metal had crystalized and chipped off in cleaning. The presence of such a coin in the hoard is surprising. The inclusion of these seven coins in the hoard, which has no coins of Philip, is of some importance. If only the tetradrachms were present, one could infer that the small coins issued locally were still circulating in some quantity, but for the purposes of savings the tetradrachms (and perhaps the staters of Elis) were put away. The three drachmas, however, show that toward the end of the fourth and during the first half of the third century small coins of Alexander were supplementing, if not replacing local issues. This may be taken as a partial explanation of the fact that of the latest series of Euboean drachmas, those with the dolphin, the hoard contains only three specimens. Evidently the old order was changing and giving way to the new, as individual communities became smaller in the perspective of the great new world.

¹²⁰ Cf. Copenhagen, *SNG Macedonia*, 2, pl. 24, 882, where a similar coin is assigned to the Propontis, before 318.

¹²¹ Cf. Copenhagen, *SNG Macedonia*, 2, pl. 25, 864, where a similar coin is assigned to an uncertain mint in the fourth or third century. Newell does not list the symbol (lyre).

ANTIOCHUS HIERAX, 246–228

TETRADRACHM

Mint: Abydus, ca. 241–236¹²²

90. Head of Antiochus II, r., filleted.

Rev. Apollo seated l., on omphalos, holding bow and arrow; in field l. A]NTIOXOY and race-torch; in field r., B]AΞIΛEΩΞ in exergue traces of monogram and eagle.

Wt. 15.51 grms. Very good.

This is a rare coin struck by Antiochus Hierax during or directly after the years 246–241, when he was in possession of part of Asia Minor as “trustee” for Seleucus II. Newell¹²³ who knew the obverse die shows that it was made by an artist who worked later at Lampsacus and who also made those reverse dies at both places which have the race-torch. The Lampsacene pieces have the forepart of Pegasus below the torch and the coins from Abydus have a monogram and an eagle in the exergue. While the exergue is defaced, enough remains to show that there were both monogram and symbol below; the area below the torch above Apollo’s foot is unmarred and too small to have contained the Pegasus protome. The obverse die differs from one used at Lampsacus only in minor details; indeed, Newell himself says that the obverse dies of his nos. 1553–4 and 1557–8 are almost indistinguishable. However, the arrangement of the hair above the fillet marks this as the die of his δ specimen of no. 1558. He dates the Abydus issue slightly earlier than the Lampsacene, saying (p. 331) “Doubtless in consequence of an Egyptian attack on the Chersonnese and particularly on Abydus, the Seleucid mint there was merged with that of Lampsacus.” He gives ca. 241 and later as dates for the Abydus coins and 241–228/7 for Lampsacus. Since the ‘War of the Brothers’¹²⁴

¹²² Newell, *Western Seleucid Mints*, 327, no. 1558α–δ; pl. 71, 12 and 72, 1 (obverse dies of α–y), and 2, (obverse die of δ). The hoard coin is from the obverse die of δ; the reverse die is different from and better than any of the three.

¹²³ Newell, *Western Seleucid Mints*, 329–330.

¹²⁴ Newell, *Western Seleucid Mints*, 331–2.

ceased in 236 when Antiochus Hierax fled, presumably to Thrace where he later died, this coin was struck between 241 and 236 and indicates that the hoard was buried about 230 B.C.

The curious but self-evident fact that the earliest and the latest coins in the hoard show the least signs of wear has already been remarked as one of the reasons for disregarding wear in dating the contents of the hoard. The hoard is, however, important historically and economically, representing as it does the accumulation of a family over a period of about 150 years. There are various other instances of hoards of such long accumulation: the third, fourth and fifth Dura hoards include coins of at least as long a period. The small Siphnos hoard published by Newell covers nearly 100 years.¹²⁵ Surely the total, 90 coins, is sufficient to indicate that it must have been slowly accumulated, with considerable sacrifice. Thus we may outline the vicissitudes of a family in those troublous years of the fourth and third centuries, humble folk, of whom little account is taken in the investigations of great events, the battles and the conquests, in those years which saw the fall of independent Greek cities and the rise of the great Hellenistic kingdoms. The first coin saved, a rare and beautiful specimen, possibly was put away for that reason, drachmas or tetrobols being put aside to exchange for this handsome piece with which to start the family savings. Following that the eight Carystian drachmas found their way into the family coffers. The twenty-four staters with the short ethnic, all struck in close succession, indicate more settled financial conditions and some local prosperity: this may be implicit in the fact that Carystus struck staters, for she was the sole Euboean city to issue larger coins than drachmas between 387 (the terminal date usually given to the tetradrachms of the Euboean Confederacy) and 340, when Histiaea struck octobols. As the fabric of the staters is earlier than that of the Euboean drachmas, the period following 368, when possibly the six Athenian tetradrachms also entered the hoard, is represented by these coins, with the corollary that Carystus was not issuing coins during that time. Possibly after

¹²⁵ Cf. note 25.

the Lamian War, or a little later, there was a brief period of prosperity again for the town and townsfolk, when the later staters were struck, of which the family could save only eleven. The end of the fourth century and the beginning, or even the first half, of the third, during which only a few Euboean drachmas entered the hoard, was not necessarily a more stringent period financially for the family, since they were able to save the Elean staters and the Alexandrine pieces, but their inclusion marks a diminution of local currency.

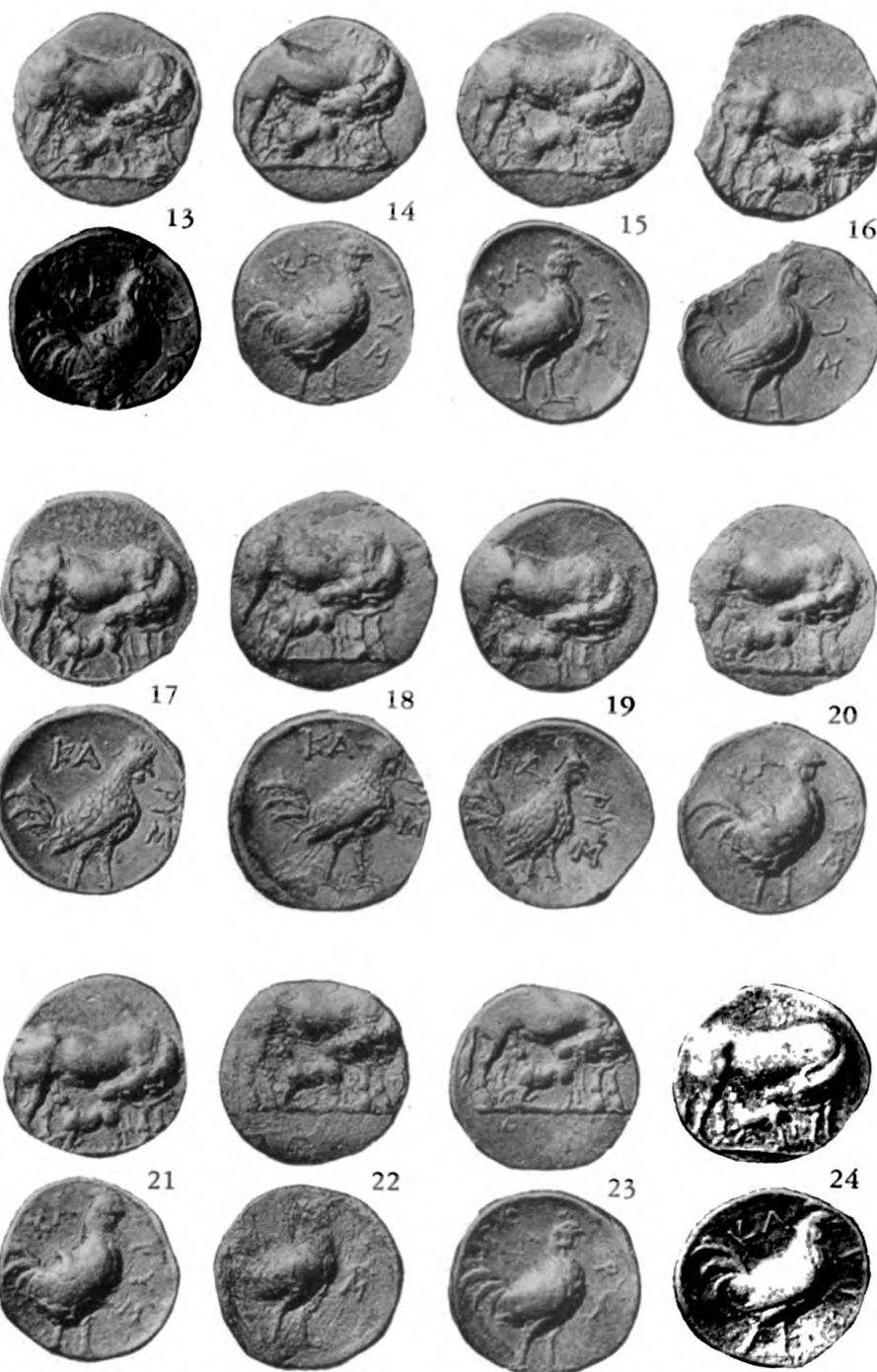
The absence of coins of Philip of Macedon, which enjoyed such wide circulation and which were on the same standard as the Euboean coins, may be set down to the intense local patriotism of the family; later the increasing number of bronze issues of Euboea, and the reduction of silver, may have made it more profitable to sacrifice principle to prudence and put away the large silver of Alexander. The last coin, the tetradrachm of Antiochus Hierax, shows that the hoard was not finally put away until the thirties of the third century; the occasion for it I have been unable to discover. Some obscure fate overtook a family which had been thrifty for a long, long time.

PLATES

I

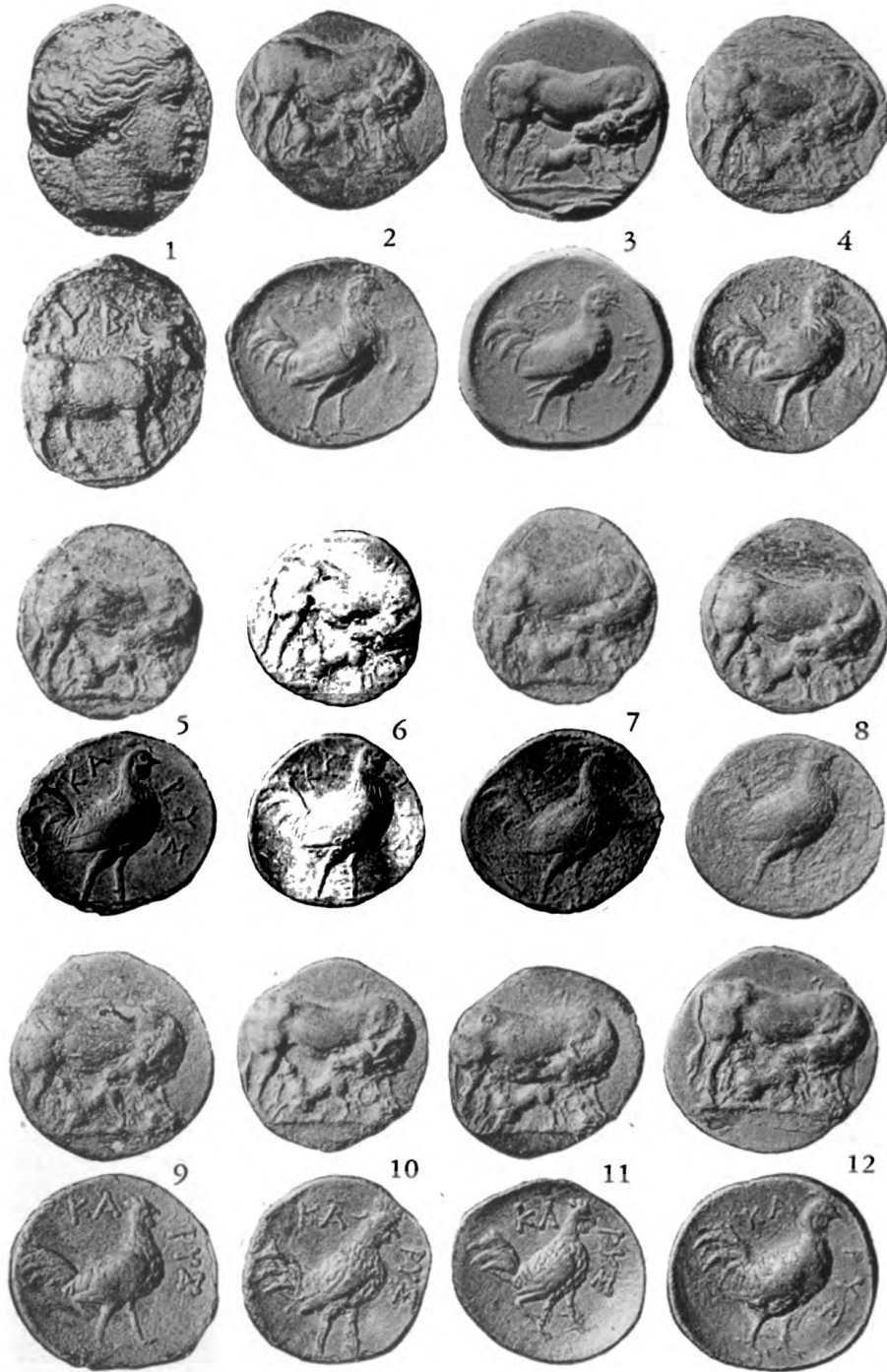


CARYSTUS HOARD

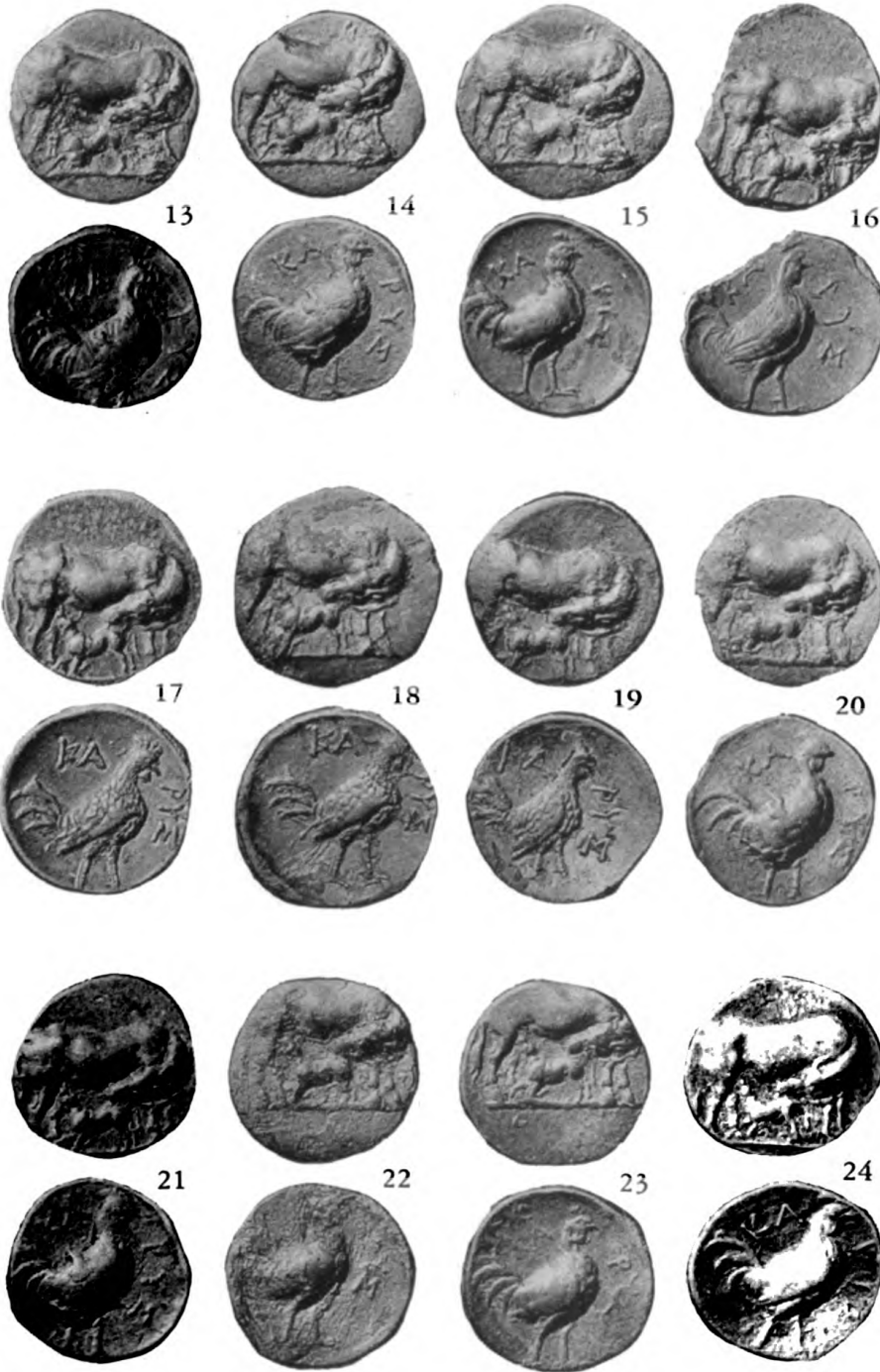


CARYSTUS HOARD

I

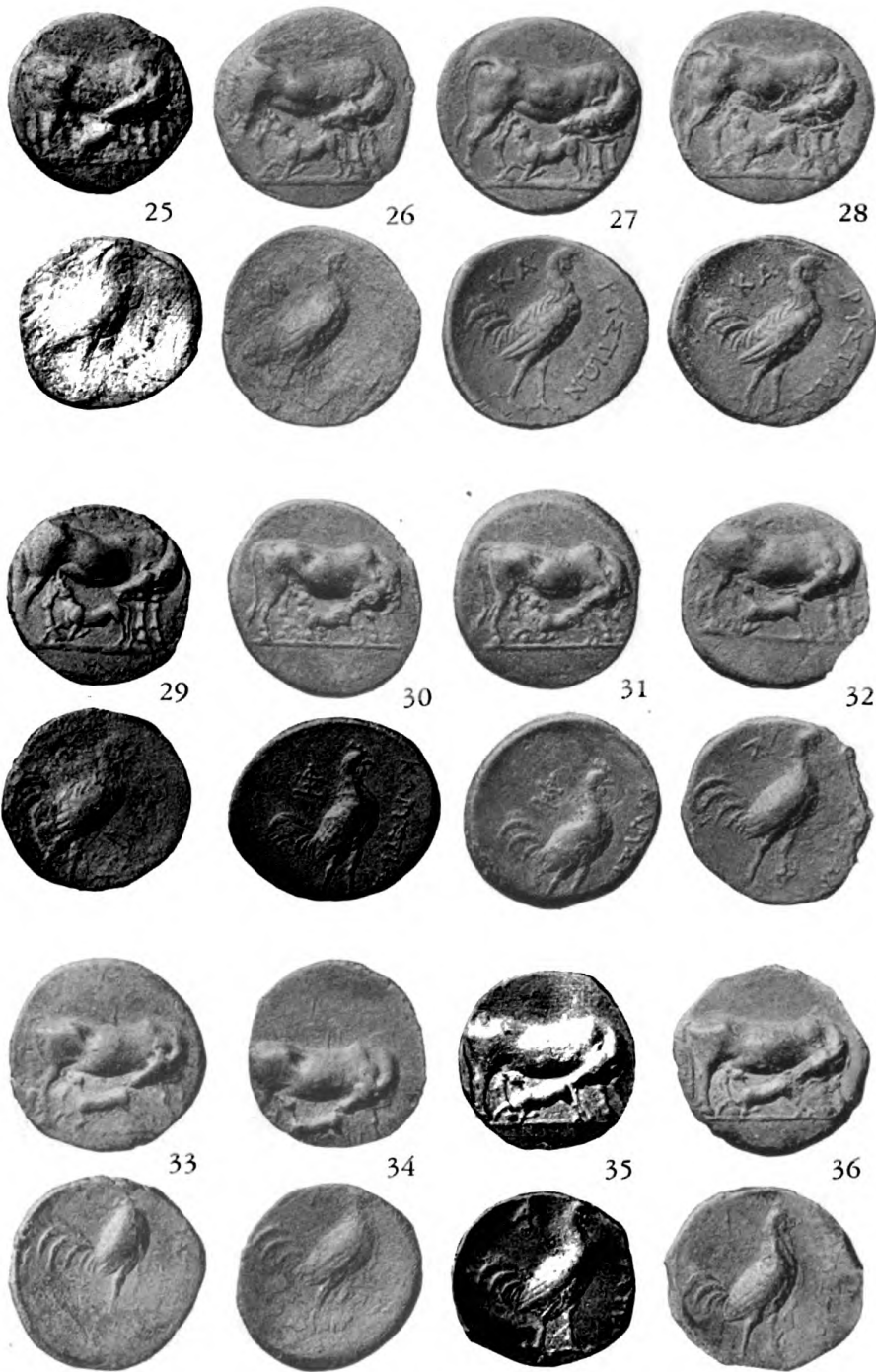


CARYSTUS HOARD



CARYSTUS HOARD

III



CARYSTUS HOARD

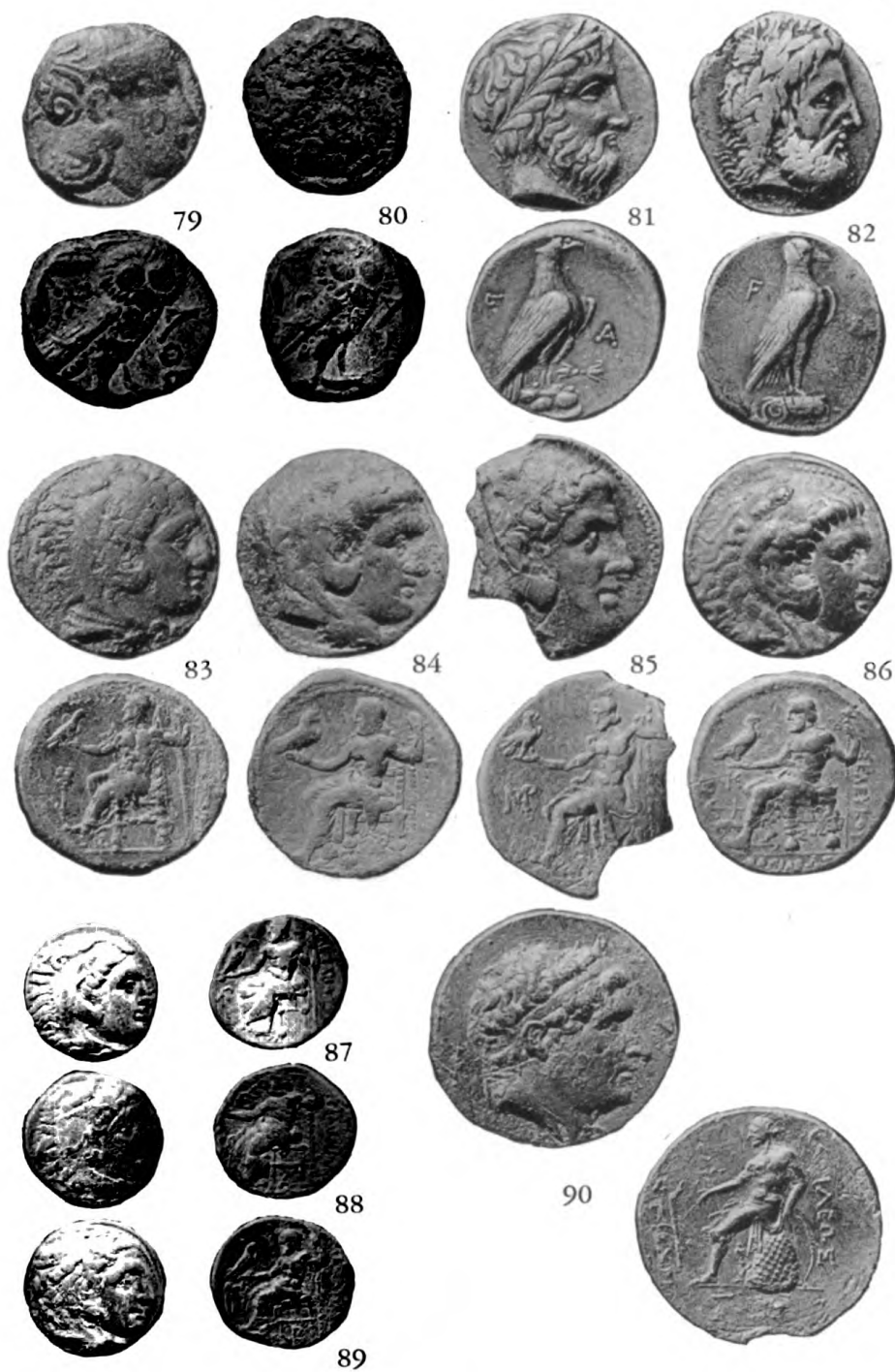


CARYSTUS HOARD

V



CARYSTUS HOARD



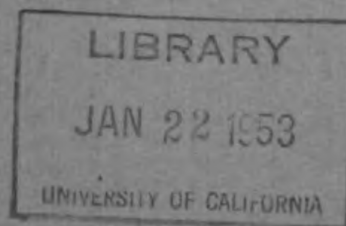
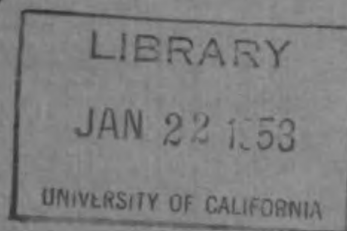
CARYSTUS HOARD

NUMISMATIC NOTES AND MONOGRAPHS

No. 125

*THE PINE TREE COINAGE OF
MASSACHUSETTS*

By SYDNEY P. NOE



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET, NEW YORK

1952

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Number 125

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The Pine Tree Coinage of Massachusetts

BY
SYDNEY P. NOE



THE AMERICAN NUMISMATIC SOCIETY
BROADWAY AT 156TH STREET
NEW YORK
1952

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DEDICATED TO
Three Ardent Collectors of American Coins

F.C.C. BOYD
T. JAMES CLARKE
CHAUNCEY C. NASH

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FOREWORD

My obligations for aid in preparing this monograph are partly expressed in the dedication and in the introductions to the two monographs on Massachusetts coinage which preceded it. I also owe cordial thanks to The Massachusetts Historical Society, to the New England Historic and Genealogical Society and to the American Antiquarian Society, as well as to the institution I serve. To my colleague, Mr. William L. Clark, I am greatly indebted for his patient help and constant interest.

INTRODUCTION

Three hundred years ago on the 11th of June, 1652, a coinage for the Massachusetts Bay Colony was authorized in Boston.¹ The coins which were struck under this authorization have since come to be known generally and collectively as Pine Tree Shillings although all the trees were not Pine and all of the coins were not shillings. In the charter given the Virginia colonists, a provision for coinage had been made, but no such grant had been made to the Bay colony. Charles I had been executed in 1649, and Charles II was defeated at Worcester in 1651. It is possible that some understanding with Cromwell was reached by the colonists, but if such be the case, no record of it is extant today. All this was changed with the restoration of Charles II. As the coins, with the exception of the twopence, were all dated 1652, which was within a year of the royal exile, the colonists were open to the charge of having infringed the royal prerogative. Since the coinage was not stopped immediately, there is some vraisemblance to the familiar tale that Sir Thomas Temple modified the royal displeasure by explaining "that the Massachusetts people, not daring to put his majesty's name on their coin, during the late troubles, had impressed upon it the emblem of the oak which preserved his majesty's life."²

¹ In my earlier studies, *The New England and Willow Tree Coinages of Massachusetts* (Numismatic Notes and Monographs No. 102) and *The Oak Tree Coinage of Massachusetts* (Numismatic Notes and Monographs No. 110), there have inevitably appeared repetitions of many of these statements. It is hoped that their inclusion here will be recognized as necessary introduction.

² Quoted by Crosby *Early Coins of America*, p. 75, from Hollis's *Memoirs*, Vol. I, pp. 397, 398.

Boston in 1652 was a little over twenty years old. The settlement can scarcely have extended far from the waterfront. The inclement weather contributed to epidemics which brought much sorrow and hardship to the settlers. Added to these very real difficulties was a pressing lack of sufficient currency to supply the needs of the town. To meet this situation, the authorities of the colony resolved to establish a mint. For carrying out their plans, they chose John Hull as mintmaster and Robert Sanderson as his assistant. It speaks well for both of these men that no complaint is on record as to the performance of their duties.

Even a brief summary of the public services of John Hull would require considerable space. In two earlier monographs it was assumed that these would be known to readers; it seems fitting, however, that they be reviewed here even though some of the statements may be familiar. For many of these we owe an exceptionally full record to a diary kept by Hull which has been preserved, as well as to his letter-books and account-books from which a clear picture of this early patriot may be constructed. The diary was published in 1857 by The American Antiquarian Society (its present owner) and has served most of the historians of this period since that year.³

Approaching Hull from another side of his activities, Hermann Frederick Clarke has published a volume devoted chiefly to Hull's work as a silversmith. This excellent study modestly disclaims originality, but it very conveniently brings together the more important data concerning Hull's life and does not neglect their setting. Pertinent documents are quoted and

³ "The Diaries of John Hull, Mint-master and Treasurer of the Colony of Massachusetts Bay, from the original manuscript in the collection of the American Antiquarian Society," *Transactions of the American Antiquarian Society*, Vol. III, 1857, pp. 111-316.

references helpfully given. One chapter is devoted to his mint-mastership.

About Robert Sanderson, chosen by him as partner at the mint, as we learn from Hull's diary, we know very little as compared with Hull. Much of the silver that has been identified as having been produced in the shop of Hull and Sanderson bears the separate punchmarks of both of them. A single piece bears Hull's punch alone. Four bear the sole mark of Sanderson and are believed by Clarke⁴ to have been produced after the partnership ceased. Hull died in 1683, but Sanderson survived until 1693. It seems, and with much probability in view of Hull's official and business engagements, that Sanderson was responsible for the details and that supervision and planning were Hull's responsibility.

Today, the four groups into which the coinage under Hull and Sanderson is divided are well known to almost every American numismatist. It is also generally known that they were placed in their correct order by Sylvester S. Crosby whose *Early Coins of America and the Laws Governing Their Issue*, published in 1875, is the rock-like foundation for any study of the early coinage of our country.⁵ In a previous study, the *New England and Willow Tree Coinages of Massachusetts*, the employment of methods not known in Crosby's day showed that the cryptic inscriptions on the Willow Tree issues, which seem to have puzzled Crosby and his contemporaries, were due to double or triple strikings and that only three obverse and five reverse dies were up to that writing (1943) distinguishable — a valuable criterion in estimating the length of the period during which the Willow Tree coins were struck.

⁴ H. F. Clarke, *John Hull, a Builder of the Bay Colony* (Portland, Maine, 1940). p. 116.

⁵ For an appreciation of this volume, see *New England and Willow Tree Coinages*, pp. 3 and 5 ff.

In a subsequent study, *The Oak Tree Coinage of Massachusetts*, it was demonstrated that the cause of the irregularities in the striking of the Willow Tree coins must have been due to the use of cylindrical dies whose freedom to rotate produced the repeated letters of the inscriptions and the double or triple impresses of the designs. This condition was remedied by employing dies whose shape was prismoidal, i.e., dies with four, six or eight sides which permitted them to be clamped so that the die would not rotate. The impress of these straight-edged dies was found on the Oak Tree issues, while the die-impress on the Willow Tree coins was circular. This innovation may have been coupled with the use of a screw-press. As a result, the Oak Tree issues were excellent coins for their period and sustain comparison with most contemporary European coinages. A tentative ordering for the Oak Tree varieties somewhat modified that presented by Crosby. The present study takes up the last of the four coin-types, the Pine Tree.

The Pine Tree shillings are the best known of the issues of the Massachusetts Bay Colony, and because this was the latest and the most prolific of the four forms, the entire coinage has been given this designation. Crosby states that the earliest reference to the coins by this name occurs in an application to the General Court which is dated 1680.⁶

We do find reference to "Boston or Bay Colony" shillings, however, and this would be a collective term, applying to any of the forms, whether NE, Willow, Oak or Pine. The great need for small denominations made these coins popular beyond the confines of the Bay Colony, for we have acts passed by certain of the islands of the West Indies giving them currency.⁷ The cargoes of salted fish from Boston found a ready sale in these

⁶ Crosby, *The Early Coins of America* (Boston, 1875), pp. 108–109.

⁷ Robert Chalmers, *A History of Currency in the British Colonies* (London, 1893), p. 64.

islands, and the coins of the Bay Colony would have had ample occasion for transmission to such markets. It was from the West Indies, and more probably Jamaica, that the supply of silver was obtained. Here was offered such loot as pirates or privateers might capture from the Spanish shipping to or from the ports of Mexico and South America, among which silver was a prominent commodity. It seems probable also that it was here that the much prized Spanish iron or steel used for the dies of these coins may have been obtained, since the bog iron produced in New England is thought to have been too poor in quality for this purpose.

The appended plates showing the varieties of the Pine Tree issues display at a glance one condition which greatly simplifies their study. They divide themselves very conveniently into two groups: the first, and the earlier, have the enlarged, thin flan which marks most of the Oak Tree issues which precede; the second, have a much smaller and more constricted planchet (24–27 mm.). These must, therefore, have been the latest issues in the coinage as is made evident from a consideration of the hoards which are known.

In our “Descriptive Notes” the form of the inscriptions is given, together with distinguishing characteristics of each die. The plates and Crosby’s table reproduced on Plates IX and X supply other pertinent details. The best preserved specimens available have been chosen for illustration; their present ownership and weight is recorded also.

CHRONOLOGICAL SEQUENCE

Establishing a date for the initiation of the Pine Tree type offers difficulties, but a careful study of the documents printed by Crosby permits deductions which are helpful though not entirely conclusive. We have a copy of the court order for the minting of the twopence under date of May 16th, 1662.¹ This provides for the coining of this denomination for the next seven years and stipulates the proportion of twopence to the total coinage — a consideration of value in estimating the extent of the entire output. The term of seven years seems to have become an *idée fixe* of the authorities for, as we shall see, it occurs in at least two later agreements between them and John Hull and Robert Sanderson. According to the arrangement made in 1662, there would have been no coinage of this denomination after 1669, but Crosby reasons convincingly from the alterations made to the reverse die² and because of the smallness of the dies, that it was struck for a longer period. We can therefore hardly take 1669 as the date for the change from the Oak to the Pine Tree types. I believe that we have means for reaching greater certainty by working backward from the date on which all coining stopped at this mint. The Massachusetts Records afford us another document recording the negotiations of a Committee of the Court with “the former master of the mint” because “the time formerly agreed upon with the mint masters is now expired.” Hull and Sanderson are enjoined to “Continue to mint what Silver bulljon shall Come in for the seven

¹ Crosby, p. 55.

² Cf. the enlargements shown on PLATES VI to VIII of *Oak Tree Coinage*.

yeares next to Come, if either of them live so long." The date of this agreement is May 12th, 1675, which would make its expiration date May 12th, 1682. Crosby quotes a letter³ from the officials of the King's Mint found at the State Paper Office in London under date of Nov. 22, 1684, with the statement "that a mint hath hitherto been kept up and employed at Boston in New England," and another reference which makes provisions "if his Majesty shall think fitt to settle a Mint in N. E." It seems certain that coinage must have stopped before 1684, and the expiration of Hull's agreement in May of 1682 is hardly likely to have been extended appreciably beyond this date. Hull died October 1, 1683. The Charter of the colony was revoked Oct. 23, 1684.

If there was an interval between the large-flan Pine Tree coins and those which are smaller and thicker, it can hardly have been extensive in time, but there is support for the suggestion in the agreement with the mint masters which precedes the one which we have just been considering. This is dated October 9th, 1667, and like the two others which have been quoted, covers a period of seven years.⁴ This period would have expired in October of 1674, and that there was any coining between that date and July 9th, 1775, when the new agreement with "the former mint masters" was signed, seems unlikely in the light of the explicitness which marks both the procedure of the Court and Hull and Sanderson's business-like way of doing things. In view of the wording quoted, there would seem to have been in 1674-5 at least a possibility that the former mint masters might not continue to be in charge.

Crosby makes the very probable suggestion that the decrease in diameter may have been due to the discovery that small dies lasted longer than the ones required for the larger

³ Colonial Entry Book, Vol. LXI, p. 218. Crosby, pp. 86-87.

⁴ Crosby, p. 78.

flans and that this was the cause of the constriction. Does it not seem that this innovation must have been decided upon in 1675? And does it not follow that the introduction of the Pine Tree type on the larger-flan issues may have been decided upon at the beginning of the term of the previous agreement—that is, in 1667. Such a dating would seem to accommodate itself very well to the proportionate number of dies, although any such comparison must take into account an apparent increase in the small-flan coinage (which is to be seen in the diagram on page 12). We must also ask whether there may not have been a temporary stoppage of coining of the Oak Tree pieces in 1665 following upon receipt of the demand of the King's Commissioners that the law providing for the coinage be repealed. From the foregoing, I think we are justified in rejecting Crosby's tentative dating of 1662 for the introduction of the Pine Tree type.

With the plate of the large-flan Pine Tree shillings before one, it is easier to follow the reasoning which dictated the arrangement here submitted. Crosby's ordering was based on the punctuation on the obverse die (p. 55 and Table on pages 56-7, reproduced on PLATES IX and X of this monograph). The sizes given by him are for the diameters of the inner and outer circles of beads and are, as was to have been expected from a man who was also a student of astronomy, accurate. But he does not start with the largest dies which his Table gives as 3 and 4. (Nos. 2 and 3, herein). For both of these, the diameters of the beaded circles are larger than for any of the Oak Tree shillings, the last of which has an oval rather than a circular border with the vertical axis longer than the horizontal. For the latest Oak Tree issues, the flans as well as the dies are smaller than for our Nos. 1 to 3 of the Pine Tree coins. There would seem to have been a new beginning.

This, however, is not the only reason for the changed order.

The tree forms of Nos. 13 to 15 are much nearer the simplified forms of the later small-flan shillings shown on the following plates, from which our Nos. 1 to 3 are furthest removed in point of form or style. The transition from Nos. 1 to 15 is gradual and shows a consistent tendency. The die-combinations provide further support for the sequence as submitted. They show that there were three combinations — Nos. 2-3 (Crosby 3F and 4F), Nos. 4-7 (Crosby 5B and 7B) and Nos. 8-10 (Crosby 1C and 1D). Of these, the tree-form of No. 7 seems to have been a derivative of No. 2 with a trend away from the straight branches of the former toward the curved ones of Nos. 8-10.

Because the recutting of the last die of the Oak Tree shillings (Nos. 13 and 14) seems to try to make a Pine out of an Oak Tree, this may have occurred after 1667 when Hull's new agreement with the authorities was ratified. Reason for rejecting Crosby's variety 10P will be presented later. Without the altered Oak Tree die (14), we should then have eight obverse and seven reverse dies for these large flan Pine Tree shillings, struck, as has been suggested, between 1667 and 1674.

The last group of the Pine Tree coins, which we have shown may with some assurance be dated between 1675 and 1682 are more common than the earlier pieces and show less marked differences. The diagram appended shows one striking contrast. Whereas previously a new die was not prepared until the old one had been outworn, or nearly so, we have now clear indication that not less than four pairs of dies *may* have been in use at the same time. Whether the tale that the Oak Tree on the coins was intended for the royal oak did satisfy Charles II to the extent that there was no agitation for suppressing the mint for a number of years following this incident is a moot question. But by 1675, or shortly thereafter, when Hull's last

seven-year agreement with the colony was effected, there must have been a realization on his part and on the part of the Bay State authorities that there was strong likelihood that further minting would be forbidden. And since there could be no denial that a mint had been operating, their conviction on this count was sure. No benefit would be derived from minimizing the offense. The indications point to a decision to increase the coinage to the limit. Small-sized flans withstand the stresses of coining better than spread ones, and there would have been a longer life for each pair of dies and a consequent increase in the number of coins produced by each pair. There seems the best of reasons to believe that the output of the mint in this last period was greater than in any that had preceded.

There is, however, another possibility. In a Minute of the Court dated October 10th, 1677, "It is ordered that the Tresurer doe forthwith provide tenn barrells of Cranburyes, two hogsheads of special Good Sampe, and three thousand of Cod ffish, to be sent to our messengers, by them to be presented to his Majesty as A present from this Court." An entry in Hull's letter book shows that part of this provender was sent in the ship "Blessing" to the London agents of the colony, William Stoughton and Peter Bulkley. In October of 1678, the Court writes to the same agents "As for that particular of our Coyning money wth ou^r oune Impress, His Maj^{ty} of his Gracious Clemency towards us hath not binn pleased as yet to declare his pleasure therein; and wee haue Confidence that when he shall truely be informed of the symplicity of our Actings, the publicke Joy thereof to his subjects here, and the great damage that the stoppage thereof will Inevitably be to ou^r necessary Commerce and abatement of his Maj^{ties} Customes yearely Acruing by ou^r merchants & Nauigation, & is paid at London, his maj^{tye} will not Account those to be freinds to his Croune that shall seeke to Interrupt us therein; and for the Impress put

vpon it wee shall take it as his maj^{ties} signall ouning vs if he will please to order such an Impresse as shall be to him most Acceptable.”

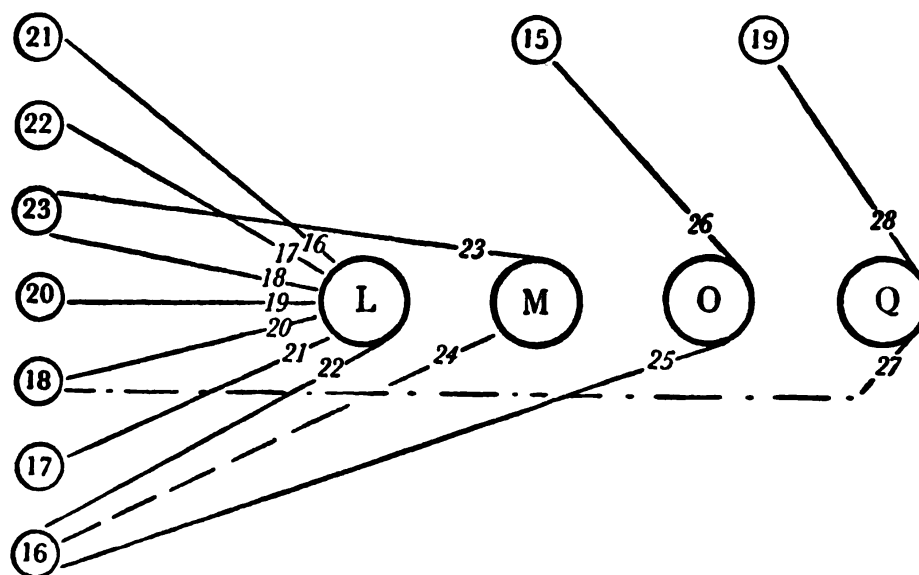
This shows clearly that hope of obtaining the royal permission had not yet been abandoned and a report by the agents of a seemingly favorable response might have resulted in an authorization to Hull and Sanderson to increase the output of the mint. The former explanation, however, seems the more probable.

Justifying the arrangement submitted for the small flan issues is much more difficult than might be expected. In the previous pages an effort has been made to show that there was a considerable increase in the output of the mint during the last seven years of Hull's incumbency. There may have been four pairs of dies in active use at the same time, possibly more. The combinations with the four reverse dies form an entity, albeit a complicated one. In the present ordering, No. 15 (Crosby 24-N) precedes. The reasons for this placement are technical and stylistic. The pine tree here seems to have been copied from No. 11 (Crosby 2a-A1), and the reduced size of the letters of the inscription on that die is followed on both dies of this variety. The neatly formed letters and the exceptionally large interval between the last S of MASATHVSETS and IN seem to indicate an engraver new to his task. So, too, do such inadvertencies as the lowered L of ENGLAND on the reverse and the spacing of AN DO. The rather unhappy form of the 5 of the date is open to the same interpretation and the spacing of the beads of the borders, though careful, appears to be timid. All these conditions are greatly improved in the dies which follow and would be less reasonably explainable if this variety were placed after the complex of the combinations which follow. Moreover, the form of the tree does not fit there as well as here. Crosby placed this piece at the end of the

series because he used the rosettes of the obverse as the criterion for his order.

The arrangement for Nos. 16 to 22 is determined by the wear on the reverse die (Crosby's L). One can hardly be certain that this order is absolutely as given because it is easy to confuse the wear on a given coin with the wear on the die, but if the demonstration that these dies were in use concurrently be accepted, it follows that no great difference in point of time will be involved. In his introductory paragraph for the series, Crosby remarks regarding the Pine Tree issues "This type furnishes at least twenty-four obverse dies of the Shilling, or about double the number of both Willows and Oaks, and are met within about the proportion of four of these to one of those." As between the large-flan Pine Tree shillings and those of the smaller and thicker flans, the latter appear to be much the more numerous.

If, as the combinations show, four pairs of dies may have been in use concurrently, the relative order within the complex is of comparatively slight importance. Taking Crosby's L



die as the earliest (our Nos. 16-22), we can show that L precedes die Q through the progression of die flaws (cf. obverses of Nos. 20 and 27). There is not enough indication of wear to show whether No. 21 (16-L) preceded No. 23 (16-M) or *vice versa*. The doubled V,s (for W) of the reverse inscription of No. 23 and the improved circle of the inner border might be taken to indicate the order 20-23 (L-M). As between Nos. 23 and 24, the doubled Vs of the reverse link it to No. 23 rather than No. 24 so the order submitted (L-M-O) seems highly probable. No. 26 definitely follows No. 25 because of the development of the die-flaw at the last N. Placing No. 29 (Crosby 14-R) and No. 30 (Crosby 13-s) at the end of the coinage is based on the development of the tree-form and inscriptional tendencies although the condition that the reverse die of No. 25 is not combined with more than one other die may point to O having followed Q.

HOARDS

There are two hoards which are recorded with some degree of dependability. The first was found in Roxbury in 1863. This hoard contained twenty-eight pieces and was acquired intact by W. Elliot Woodward, a Boston coin-dealer. It was described in his catalogue of the McCoy Collection (1864, lot 1640) and offered as a single lot with an upset price of \$150.00 and withdrawn in the absence of a bid. In his next sale, the following year, the coins were offered without restriction and brought a total which was close to one hundred dollars. Had the hoard been preserved intact, helpful deductions would have been possible in all probability. An account of the finding was printed in *The Historical Magazine* for October, 1863, from which the following is taken:

“A few weeks since Geo. Wilber Reed, a little son of Geo. P. Reed, Esq., of this city, when climbing up a bank, through which a new street had recently been cut, to aid his ascent put his hand into a crevice by the side of a rock; on withdrawing his hand his attention was attracted by a piece of metal, which on examination he found to be a Pine Tree Shilling, with two other coins adhering. The boy of course continued “prospect-ing” until the “lead” was exhausted, and at the conclusion of his digging was rewarded by finding in his possession no less than twenty-eight pieces, comprising all the denominations of the Pine Tree money, all of the common types with a single exception.

“..... That the coins were not lost prior to 1662 is proved by the fact that several two-penny pieces of that date were found amongst them, while the fine condition of the pieces,

coupled with the circumstances that no Spanish or other coins were with them, indicate that they were lost when the Mint was in its palmy days, and when the Pine Tree money was almost or quite the only currency in circulation in New England, say, between 1662 and 1685."

In this hoard, sixteen coins were Oak and twelve Pine Tree issues. We are able to identify one of the Pine Tree shillings (our No. 11), and possibly a second (No. 3?). At least one of the remaining shillings was of the small-flan type — possibly all four — the insufficient description prevents certainty. But the presence of the one small-flan shilling enables us to date the burial of the hoard after the small-flan came into use, after about 1675. Were we able to identify the other varieties, we might be able to tell from them whether the loss of these coins took place immediately after the change to the small form or nearer to the cessation of the coinage in 1682.

The second hoard was found at Castine on the coast of Maine in 1840. It was initially studied by Mr. Joseph Williamson.¹ A re-study of this hoard² was one of the results of the loan of this material for an exhibition held in the Museum of the American Numismatic Society in 1942.

The hoard is reported to have contained between four and five hundred pieces. The Massachusetts issues were said to have numbered thirty in one account and fifty to seventy-five in another description of this hoard. Fortunately, a selection of what purported to be one of each several variety contained in the hoard was made by Dr. Joseph L. Stevens of Castine, and this selection of seventeen pieces came ultimately into possession of the Maine Historical Society. There are four Pine Tree varieties. The date deduced for the burial of the

¹ *Collections of the Maine Historical Society*, Vol. VI, 1859, pp. 107–126.

² S. P. Noe, *The Castine Deposit: An American Hoard* (Numismatic Notes and Monographs 100).

deposit was about 1704. The three Pine Tree shillings are our Nos. 2, 25 and 29; there was also a sixpence. Specimens said to be from this hoard occur in auction sale catalogues,³ an indication of the possibility that more of these pieces than we think escaped the melting pot.

At Exeter in October, 1876, a hoard said to have contained thirty to forty Massachusetts shillings was found. A brief paragraph appeared in the *American Journal of Numismatics* for 1877 (p. 92), and a much more detailed account in the same publication for 1878 (p. 105) is signed C.H.B., probably C. H. Betts. Since many of our readers will not have this reference available, two pertinent paragraphs are appended.

"It was in the process of excavating a cellar under the extension of a store, not far from the railroad station, in Exeter, that the discovery of the coins was made. The Proprietor had given the earth to an Irish laborer, upon the condition that he would take it away. In throwing the sand into a cart, a few of the shillings were disclosed, though their value was not at once realized. The person to whom the earth was given, however, thought it worth his while to examine further the argentiferous soil before "dumping" it, and finally passed it through a sieve, realizing by the process quite a store of the pine-tree pieces. The exact number obtained in all cannot be ascertained, but is believed to be between thirty and forty. The greater part were found by the Irishman, but other persons picked up scattering specimens.

"The remains of what appeared to be a wooden box, much decayed, were detected in the sand; the coins in all probability had been inclosed in it. All the pieces found were shillings of the oak or pine-tree pattern, and bearing the date, of course,

³ Oak Tree Shilling, Woodward Sale, Mar. 30, 1864, Lot 138 and Pine Tree Shillings, Woodward Sale, Apr. 28, 1863, Lots 1870, 1871, 1873 (small flan) and sale of Oct. 20, 1863, Lots 2460, 2467 (6-κ).

of 1652. They were of several varieties, giving evidence, according to an intelligent informant, of at least four distinct dies. The condition of the pieces varied, some being, fine, while others were much worn. The place of deposit has been used as a garden, or door yard, probably, for a couple of centuries. When, by whom, and for what reason the glittering hoard was interred there, must be left to conjecture."

We do not have any detailed record of the contents of this find, but in the Ferguson Haines Sale of October, 1880, there is a statement that the Willow Tree shilling, No. 11 in N. N. & M., No. 102, came from this source.

From Salem in 1737, comes a newspaper report of a find which bears all the marks of gross exaggeration. It was called to my attention by Mr. Chauncey C. Nash who kindly made inquiries in Salem without being able to obtain further information. The paragraph quoted by him comes from the *Salem Gazette* for July 11/18, 1737. A similarly worded paragraph (with minor differences) appears in the *American Journal of Numismatics* for 1881 (p. 46) and is repeated (without original spellings) in the same Journal for 1890 (p. 31) with credit to the *Boston Weekly News-Letter* of July 21st, 1737. Although little more than a statement of place and circumstance is to be gained from this paragraph, it is reprinted below:

"We hear from Salem, that on Friday last William Brown, Esq., the youngest surviving Son of Hon. Col. Brown, deceased, having had Information of some Money conceal'd in a Place which he owned, caused search to be made for the same, where was found five or six Jarrs full of Silver, containing about one thousand ninety-three Ounces of Silver of several Species, among which was about six thousand New-England Shillings, scarcely discolor'd." *Boston Weekly News-Letter*, July 21, 1737.

Coming from Boothbay Harbor, thirteen miles southeast of Bath, Maine, sometime before September, 1880, a small lot of "Pine Tree" pieces which might have been a part of a hoard is recorded in the Woodward Sale of the Jenks Collection (Sept. 1880), lots 429 to 431. The fifth piece appeared in Woodward's Sale of his own collection (1884, lot 354). The earlier sale under a caption "Treasure Trove" states "the four following pieces were found, quite recently, in a small cave in Boothbay Harbor, Maine. The entire find consisted of five pieces, and the finder, hoping to secure more, very judiciously keeps secret the exact place of discovery." The entry for the piece in the 1884 sale reads: "1652 Oak-tree Shilling. Found in a little cave with a number of others at Boothbay, Me., where it had lain long under salt water, the action of which reduced its weight nearly one-half. Piece broken from edge." There is little to be learned from the foregoing save that there were two Oak Tree shillings, and that one of the three Pine Tree shillings was a small-flan variety. Assuming that a hoard is represented by these five pieces, it would have been deposited after about 1675.

WITCH PIECES

One of the tragic episodes in the early history of the Bay Colony — the witch frenzy — has an indirect bearing on the coinage we have been studying. A wave of hysteria seems to have swept over the colonists in 1692, centering in Salem although Boston was not unaffected. The cruel punishments after trials that were grossly unjust still bring amazement to anyone who examines the carefully kept records. The epidemic was not confined to the ignorant or illiterate. Cotton Mather attended one of the trials and spoke in justification of the verdict. He also made his opinion clear in print. Judge Samuel Sewall, later Chief Justice, twenty years after made a public confession of penitence for his judicial acts.¹

We are told that it was the superstitious belief of the time that wearing a bent coin afforded protection against the power of "witches." Some of our Pine Tree coins show evidence of having once been bent even though as we see them now they have again been flattened. Some show dents which imply that teeth must have been the means of bending them initially. The thinness of the Pine Tree coins made bending an easy operation, and some with holes for suspension may have seen service in the same manner as those which were bent. The Roxbury hoard contained one piece which was described as a witch piece. On PLATE VI, a-c, a selection of pieces which are believed to have served as witch pieces are shown.²

¹ *Massachusetts Historical Society Collections*, Fifth Ser., V, Boston, 1878, I, 445.

² It may have been a "witch piece" that we find mentioned in "Mother Goose":

There was a crooked man
And he walked a crooked mile
He found a crooked sixpence
Against a crooked stile.

FLANS

The manner in which these coins were prepared is of interest, but the only evidence I have found is that provided by the coins themselves, and this is frequently clouded by wear and mutilation. A number of the better preserved pieces have edges that are straight for a part of the circumference¹ and some of these straight edges have a bevel which implies the use of a chisel or some similar means of having produced that straight edge. But by far the greater portion of these pieces — even those with a straight edge of considerable length — have the most of their perimeter so curved that it could hardly have been formed by chisel cuts. Is it possible that a huge pair of shears might have produced the results we now see? Trial and error would soon show the size of flan which would give the desired weight, and any excess could be removed by further clipping. The longer straight-edges would be understandable in such a process. There is too much irregularity for thinking that a circular cutting tool such as we use today for making discs or washers could have been used. A hammer blow, once the flan had been placed on a flat surface, would easily have removed any bending incidental to the shearing.

¹ PLATE I, 2; PLATE I, 5; PLATE VI, d.

ENGRAVING

In our monographs devoted to the coinage of the Bay Colony, there has been frequent reference to the workmanship or die-cutting. In a very real sense it has been more like engraving than cutting intaglio such as one would have had for a Greek coin. The contemporaneous European issues such as those of the mother country or Spain, where the artist had to essay portraiture and the intricacies of coats-of-arms, were much more demanding. The tree type was as much engraving as the letters of the inscriptions, and neither produced any great relief on the coins. In the beginning, in all likelihood, this work would have fallen to the lot of Robert Sanderson. There are statements in *The History of Lynn*¹ that the dies were *made* by Joseph Jenks of that town, and Crosby² states that "it is supposed it was he who cut many of the dies for the coinage of this mint." May it not be that the making of the dies did not involve their engraving? Jenks may have *made* the dies, but there seems no good reason for attributing their engraving or cutting to an iron-founder.

There are notable differences in the forms of the letters as well as errors in spelling that were palpably due to copying. Knowing as we do that Hull had several apprentices, possibly including John Coney who in 1690 engraved the first Massachusetts paper money,³ we need hardly hesitate in concluding

¹ Alonzo Lewis and J. R. Newhall, *History of Lynn, Essex County, Massachusetts . . . 1629-1864* (Lynn, 1890).

² *Early Coins of America*, p. 80.

³ H. F. Clarke, *John Coney, Silversmith, 1655-1722* (Boston and New York, 1932), pp. 6 and 9.

that some of the engraving was done by apprentices. The errors in spelling occur rather late (Nos. 11 and 12, obverses), but the uniform spelling MASATHVSETS, with these exceptions, gives some authority to this as an official spelling, notwithstanding the multiplicity of variations which occur in documents, and sometimes in the same document.

The frequency with which we find reversed S's, and N's which have the middle stroke incorrectly cut, shows that either a novice or a careless workman was responsible. ANNO was usually abbreviated to AN, but in the Pine Tree threepences we find ANO. Further we find it omitted in one instance (PLATE V, 34) and then added to a second state of the die with a readjustment of the adjacent letters to equalize the spacing (PLATE V, 35). If the forthrightness which characterizes Hull's letters found vent after the disclosure of such inadvertencies, there must have been times when the mint-house echoed to forceful language.

It must not be thought, however, that such mistakes were common. After mastering the difficulties which made the Willow Tree pieces such poor coins, the inscriptions are exceptional in their excellence, and need no apologist. It is doubtful that anything would be gained through trying to differentiate the workmanship of this or that engraver. The silverware bearing the punches of Hull and Sanderson show little lettered engraving that is not obviously a later addition. For the purpose of establishing the sequence, the numismatic approach through die-combinations and die-breaks is relatively much more dependable.

MUTILATIONS

One of the reasons given in the records for the change from the NE type to that with "a tree" was the ease with which the NE pieces could be clipped. This may have been foreseeing a condition which had not yet come to pass, but it is strange that no clipped NE coins have come under my observation. Clipped or underweight specimens of the following varieties have been noted and a selection is shown on PLATE V.

			<i>Weight</i>
Willow	No.19	American Numismatic Society	53.4
Oak	No. 5	Mass. Historical Society	43.4
"	No. 1	" " "	48.8 Pl. V, a
Pine	No. 8	T. James Clarke	36.3
"	No. 2	C. Wurtzbach	64.4
"	No. 9	Yale University	46.6 Pl. V, e
"	No.13	Amer. Numismatic Society (Field)	52.1 Pl. VI, c
"	No. 1	" " " "	44.0
"	No. 1	William L. Clark	37.1 Pl. V, f
"	No.30		
"	No.26	Mass. Historical Society	30.4 Pl. V, d
"	No.17	" " "	42.2
"	No. 2	American Numismatic Society	73.3
"	No. 4	Mass. Historical Society	74.4
"	No.15	T. James Clarke	74.1

There are other pieces which seem to have been clipped, but which the scales show to be of normal weight. Some pieces have lost a few grains only and these can hardly have suffered this loss by clipping. In addition, we are fortunate in having a

clipping from an Oak Tree shilling. This comes from a hoard of clippings found in London. The letters permit identifying it as our No. 1. In some cases, as in this one, clipping has taken the form of removing a segment (PLATE V, c). Others have had a ring of metal removed (Cf. PLATE XI, a, b),¹ and this procedure is a less obvious reduction of the coin's value. Both large and small flan issues have suffered from this practice, but the larger flan pieces which had undergone circular clipping would have been more easily passed after the small-flan Pine Tree pieces had come into being. A further form of mutilation has been published by H. Alexander Parsons.² This is a quartering of a Pine Tree shilling (PLATE V, b) which probably occurred in the Leeward Islands of the West Indies where this means of obtaining small denominations for circulation more frequently used Mexican or other coins of Latin America. It is interesting that Mr. Howland Wood whose interest in cut pieces is commemorated in his indispensable monograph on these mutilations, concurred in this explanation. The halved piece from the collection of The Massachusetts Historical Society (No. 26 — PLATE V, d) may be another instance of this practice although it may also have been the result of a coin having been bent for wear as a witch piece and broken in the process.

Overweight is rare and is sometimes a valuable hint that the genuineness of a coin is questionable. All weights above the norm recorded have been for Pine Trees.

¹ Pieces illustrated are: (a) clipping of a shilling of Charles I and (b) clipping of a groat of Henry VI.

² "A Cut New England Threepence Attributed to the Leeward Islands," *British Numismatic Journal*, XV (1919-1920), p. 225.

COMMENTS ON FABRICATIONS

From the space devoted to counterfeits and imitations herein, they may appear to have been given undue prominence, but because some of these fabrications may be dated within fairly close limits and also because the copies are frequently mistaken for the genuine pieces by the uninitiated who have no originals with which to compare them, they are listed with more detail than they deserve.

A, B and C. These pieces are to be dated before 1854 on the evidence of Dr. Ammi Brown's letter.¹ The spelling MASSACHUSETTS implies that the engraver did not have a genuine piece before him. Moreover, the date shows that the intention must have been either to mystify or to take advantage of the ignorance of some novice.

The source of B and C was the same as for A, and because these pieces betray a knowledge of the Bay Colony's coinage, which, though hardly to be called thorough or competent could not be stigmatized as superficial, we may draw some conclusions from what was selected for imitation. Their fabricator was not concerned with the Oak Tree issues. He was working at a time when Crosby's demonstration that the Oak Tree type preceded the Pine Tree had not yet been published. It seems scarcely credible that the very slight evidence that a coinage was being considered by the officials of the colony before 1652, on the basis of which Crosby and others were willing to give these pieces a hearing, could have been known to the originator. He did not know that the small-flan Pine Tree pieces were the latest in the coinage, but the

¹ *Early Coins of America*, p. 63.

use of flans for B and C that were smaller than A shows that he was aware that the flans did differ in size. The maker of these coins must have had some numismatic knowledge for the intention seems to have been to offer his product as "patterns." If it had not been for the backing which the respectability of Dr. Ammi Brown afforded, the tale which accounts for the origin of these coins would have been given less credence.

D. It is breaking with tradition to place this coin among the counterfeits, but its many inconsistencies forbid any other course. The heavy inner borders, the clumsy, spindling letters of the inscriptions of both sides and the huge numerals of the reverse dictate this conclusion. The encroaching of the border on the letter L is evidence that the cog-wheel border was cut later than the inscription, something I believe contrary to the practice for the genuine pieces.

E. The weight of this piece and the spelling ENGLAD as well as the metal (copper or bronze) mark this as the work of a bungler. One might say almost as much for F, but as at least three specimens are known and since it is die-struck, it is to be recognized as an attempt to make a fabrication which would mislead, and further specimens may appear.

Since there is no center point for a compass visible, the maker seems not to have known that one was used for the genuine issues. The borders suffer in consequence, not only in not being true circles, but because the beads are not uniform in size.

F is the work of another bungler; the misspellings give it away.

WYATT'S IMITATIONS

My first monograph on the Massachusetts coinage gave such data as I could discover for the work of Thomas Wyatt.²

² *New England and Willow Tree Coinages*, pp. 50-55.

There is no occasion for repeating most of the information given there. The newspaper references to these productions are dated 1856. Does it not seem probable that the two-hundredth anniversary of the coinage may have been taken as the reason for presuming an interest which might be capitalized?

Of the eight pairs of dies associated with the name of Wyatt, the only ones bearing the Pine Tree type are the sixpence, threepence and the penny. We do not know why he used an Oak Tree for the shilling rather than a Pine. It may have been merely for the sake of variety. Nor do we know why he chose for the sixpence the less (?) common Pine Tree form. The specimens in copper which appeared in Woodward's first two sales³ are likely to have been the result of the unmasking of the series as counterfeits, that is, by producing additional varieties in another metal.

It will be remembered that the denouncing of Wyatt's counterfeits was based on two conditions of which he was ignorant. The twopence was mistakenly dated 1652, the penny was never struck. In this he was apparently misled by the engraved plate in Joseph B. Felt's *An Historical Account of the Massachusetts Currency*, published in 1839, or by an earlier English publication, Folkes' *Tables of English Silver and Gold Coins* printed in 1763. The specimen illustrated by Crosby differs from the others in the collection of the American Numismatic Society.

There is slight occasion for commenting on the threepence and twopence, save to note that Mr. W. L. Clark has discovered a combination of the obverse die of the threepence with the reverse die of the twopence.⁴ It would not be improbable that a combination of the obverse of the twopence

³ Nov. 11, 1862, No. 1359 and Apr. 28, 1863, No. 1911.

⁴ University of Michigan Collection.

with the reverse of the threepence was in existence although none seems to have been recorded.

The qualities which betray the Wyatt fabrications are their uniform completeness and regularity. If the illustrations on PLATES VII and VIII are compared with their prototypes, those differences which in a description seem minor are quickly caught by the eye of anyone familiar with the series. The flatness of these pieces is distinctive. In most cases, they are "too good to be true."

DESCRIPTIVE NOTES

SHILLINGS

1. (Crosby 12-1). MASATHVSETS · IN ☼ Pine tree, well centered and smaller than those which immediately follow; short ground-line with four hatchings downward to r. beneath. A pellet on either side of the trunk below the branches. The letters of the inscription in size and form are nearer to those on the later issues of the Oak Tree coins (PLATE I, a, b) than to those of the Pine Tree which follow, but the N is correctly engraved as in the earlier group. The encircling borders are formed of short slightly elongated units rather than of beads or pellets. No guide lines for border are visible but the regularity of the circle indicates that the central point has been obliterated in cutting the trunk of the tree. The rosette has seven beads.

Rev. NEWENGLAND:AN:DOM ☼ The date and numeral are low in the field. The center for describing the borders has been obliterated in cutting the 5. The rosette has nine beads. The W is formed by interlacing two V's. In late stages of the die, a break shows between the first two digits of the date, and another connects the 2 with the inner border (Cf. PLATE VI, f AND h). A more pronounced flaw shows in the N of AN. The colons are unusual.

A.N.S. Coll. 4.62 grams, 71.3 grains.

2. (Crosby 4-F). MASATHVSETS · II The tree has a thin ground-line with hatchings below and none of the branches are curved. These branches have hatchings which resemble those on the Pine Tree sixpence (PLATE V, 32), which uses a reverse die shared by the Oak Tree series, as well as those on the recut Oak Tree shilling (PLATE I, b). The beautifully formed letters of the inscription are bold and well-spaced. The N is inverted. The E is unusual in that the middle stroke crosses the upright — so also on the reverse. The form of the

A is distinctive. The borders are accurately described — the central point coincides with the trunk of the tree.

Rev. NEWENGLAND · AN · DOM · The date is uncommonly large, filling the central field; the 6 is distinctive. The linear circle for guidance in cutting the inner border is visible at the top and bottom. The N's are normal. The lettering, as on the obverse, is bold.

T. James Clarke Coll. 4.52 grams, 69.8 grains.

On this and on several other dies, there is indication of an injury to the die which is communicated to each piece struck from these dies after the damage took place. The probable explanation of the cause of this injury is that force was applied when there was no flan between the two dies in use, with the result that the reverse die was impressed on the obverse and *vice versa*. The first occurrence of this phenomenon noticed, is to be seen on Pl. I, 6 of *Oak Tree Coinage*. It seems to have taken place after the die-flaw between the letters A and N on the reverse had developed — say, at the stage G on Pl. II. On No. 1 of the Pine Tree shillings, there are faint traces of the Roman numerals in relief beneath the roots of the tree, and the letter O of the DOM is discernible on some specimens to the left at the edge of the flan and between the letters A and S of MASATHVSETS. In this instance, the injury is not in direct line with its cause (i. e., the section of the reverse at the same clock-position); the dies do not seem to have been in their proper relationship when the damage took place.

3. (Crosby 3-F). Inscription identical in every detail with that of No. 2.¹ Pine tree with long branches which curve upward completely filling the field. The entire tree seen in No. 2 has been covered by engraving the larger one with the curved branches. Superimposing enlarged photographs has confirmed the identity of the inscriptions.
Rev. Die of No. 2.

T. James Clarke Coll. 4.34 grams, 66.9 grains.

4. (Crosby 5-B¹). MASATHVSETS · IM · The limbs to the left are more regular and fill the space better than those to the right where

¹ This condition was a discovery of Mr. W. L. Clark.

the second from the base branches at the tip. The lettering is weak and thin; the S's are sleazy, the N is incorrect, the I short and the second T has the serif to the left omitted. The borders are irregular. *Rev.* NEW · ENGLAND · AN · DOM · Die flaw to left of XII and another above the M. The E's are noticeably smaller than the other letters. The first N in ENGLAND is the only one that is incorrectly formed.

F. C. C. Boyd Coll. 4.73 grams, 73.0 grains.

5. (Crosby 5-B²). Die of No. 4, but weakened by use.
Rev. Die of No. 4, but no period between NEW and ENGLAND. The first E has been re-engraved. There are further flaws to the left of the date and above the 6. The one over the M now extends from the outer to the inner border. Crosby states (p. 51) that the letters and numerals are recut and the grains of the inner ring enlarged. This is not apparent on the specimens available to me.

T. James Clarke Coll. 4.48 grams, 69.2 grains.

6. (Crosby 5^A-B²). Die of Nos. 4 and 5 given a separate number to indicate recutting. In the tree, the fourth branch is now connected with the trunk, and the top differs. The borders have been recut — the outer border at the bottom and the inner at ten o'clock. Some of the letters have been modified, especially the second S and the I (enlarged). The die is injured at the top and the border at that point recut.

Rev. Die of No. 5 with flaws showing further enlargement.

The American Numismatic Society. 4.66 grams, 71.9 grains.

7. (Crosby 7-B³). MASATHVSETS · IN · Pine tree with top touching the border; the ground-line higher and with more than usual hatching to left of the trunk. The second S is incomplete. The M is in line with the tree trunk. The outer border bulges at the top.
Rev. Die of Nos. 4, 5 and 6. The flaw in the left field visible in No. 4 has now been eliminated. The 6 of the date has been enlarged and the recutting has modified the 5. A die crack extends from the inner

border at the top, across the date and numeral, and passes through the M to the outer border.

The American Numismatic Society 4.65 grams, 71.8 grains.

Establishing the order for Nos. 8-10, Crosby's dies 1-c and 1-d, requires having a large number of specimens for comparisons. A single obverse die is combined with two differing reverses, Crosby c and d. Our Plate shows that No. 8 (Crosby 1^b) is the earlier — it has been recut to form No. 10 (Crosby 1^a). Crosby's order, therefore, must be reversed. This conclusion also changes his ordering for the two reverses. One of these (Crosby's d) is combined solely with the earlier state of the obverse and must, therefore, precede the second (Crosby c) which comes into use with the later recut obverse (Crosby 1^a). The order thus established is No. 8 (Crosby 1^b-d), No. 9 (Crosby 1^b-c), No. 10 (Crosby 1^a-c).

8. (Crosby 1^b-d). MASATHVSETS · III · Pine tree with trunk outlined rather than solid or modelled. Short ground-line with die flaw beneath. Border of beads rather than the oval units of the preceding Pine Tree issues. The earliest state of this die shows the inner border complete. There follows a stage in the life of the die when three of the beads are missing below the second S of the inscription (at one o'clock). The cause of this seems to be the die flaw on the reverse directly opposite this part of the die,² which as the flaw progresses and becomes deeper, prevents the metal being forced into the obverse die at this point. In the next state, No. 9, these 'missing' beads are replaced by smaller ones.

Rev. NEWENGLAND · ANDOM · The joining of the first two letters and the connection of the second A with the serif of the following N are distinctive. The earliest state of the die is shown on PLATE II; later stages show the development of flaws which unite the G and L as well as the O and M (PLATE VI, e). They grow until they affect the obverse, as has been noted. The 5 of the date has its top element unusually curved. The borders are true circles of heavy elongated units.

T. James Clarke Coll. 4.54 grams, 79.1 grains.

² Cf. PLATE VI, e.

9. (Crosby 1^{b-c}). In the later stages of this die (No. 8), whether because of wear or because of doctoring the letter at the top, the tree is weak and this portion is seldom forced up into the die. The letters H, V and S are thickened — apparently by recutting, and some of the other letters may have been deepened.

Rev. NEW · ENGLAND · AN · DOM · A period follows the W; the small G and the incorrect second N differentiate this die. The border units are elongated. A small flaw to the left of X develops gradually.

T. James Clarke Coll. 4.55 grams, 70.2 grains.

10. (Crosby 1^{a-c}). Die of No. 8. The tree is entirely re-engraved with straight ground-line and enlarged roots. The V and S at the top have been repaired.

Rev. Die of No. 9 — a later state.

T. James Clarke Coll. 4.70 grams, 72.6 grains.

11. (Crosby 2^{a-A¹}). MASATVSETS · II · The omission of the H is the distinguishing mark for this die. The letters are noticeably smaller than in the preceding dies. The first A with its thick second stroke, and the V with its first element disproportionately heavy, are distinctive. The borders are fairly regular, but the inner one has strange slightly smaller flecks at several points. The tree begins to show the form of those of the later thick-flan issues.

Rev. NEWENGLAND ANDOM Note the omission of punctuation and the incorrect form of all four of the N's. The initial digit of the date is shorter than usual and the 5 distinctive. The borders are fairly regular — the outer one is rarely found completely on the flan.

T. James Clarke Coll. 4.66 grams, 71.9 grains.

12. (Crosby 6-κ). MASASTHVSETS · II · Scrawny tree with straight, thick trunk and short branches, the lowest of which are further from the base than in any other variety. The inner border is a true circle of heavy but evenly spaced beads uniform in size. The letters of the inscription are small and like those of No. 11, with which it also shares the peculiarity of having the N's reversed.

Rev. NEW · ENGLAND · AN · DO: Both borders are regular and formed of beads of uniform size. The inner one is smaller than any yet found on the Pine Tree series and shows the trend towards the following group with smaller flans. The outer border is sufficiently reduced to show almost completely on the flan, whereas for the obverse only a tiny section of the outer border is visible. The first two letters of the inscription are crowded and all N's are incorrect. The illustrated piece is in the collection of E. P. Newman; the one illustrated in Crosby seems to be another specimen. Cf. the note in the *Historical Magazine*, Oct. 1863, stating that this piece was unique and that it had come from the Castine Deposit. This piece sold in Woodward Sale for Oct. 1863, lot 2467.³

E. P. Newman Coll. 4.01 grams, 62.0 grains.

13. (Crosby 9-c). . . . THVSETS I Punctuation not discernible. Tree with six pairs of branches slightly curved. The tapering trunk is unusually thick at the ground-line which shows hatchings to r. and l. The letters of the inscription are large, but well-formed; the H is unusually wide and the I double-cut. The inner border has elongated units which are not uniform in size.

Rev. . . . NGLAND · A . . . All four digits of the date are large. Of the Roman numerals, the X is larger and the second I shorter than the other two figures. As in No. 12, the inscription begins at 5 o'clock. The only specimen known to me is in the collection of the Massachusetts Historical Society. It has been clipped and weighs 3.08.

Massachusetts Historical Society. 3.08 grams, 47.6 grains.

14. (Not in Crosby). (MA)SATHVSETS (IN) — The punctuation not discernible. This reading is obtained by combining the data on two worn and clipped specimens in the collection of Yale University — the only pieces known to me. The heavy trunk of the tree and the curvature of the branches mark the trend toward the thick-flan issues. In size, the visible letters are like those of Nos. 1 to 10 rather

³ Cf. variety with MASSASTHVSETS in W. E. Woodward Sales, Dec. 1865, lot 1598 and Dec. 1866, lot 996. This questionable variety can hardly be 6-κ which Woodward described in his Oct. 1863 sale.

than No. 11. The inscription is normal as to its beginning point. *Rev.* (NEW) ENGLAND · AN · DO(M) · The digits of the date resemble those of Nos. 4–6. The Roman numerals are large and heavy. The beginning point for the inscription is apparently five o'clock, which, up to this point, is unusual. Both specimens clipped; the weights are 3.03 and 3.02.

Yale University. 3.03 grams, 46.8 grains.

15. (Crosby 24-N). MASATHVSETS ⚔ IN ⚔ Pine tree with lower branches slightly curved, those on the r. longer than those on the l. Tree like that of No. 11. The letters of the inscription for No. 11 are of reduced height as compared with those which precede and follow, and closely similar in size to those on this die. The interval before IN is exceptionally wide. The borders have oblong units. The scale of the tree and of the inscription are reduced in consonance with the reduced size of the flan. There is a tiny die flaw beneath the lowest branch to the r.

Rev. NEWENGLAND · AN · DO · Date high in the field — the 5 distinctive. The Roman numerals are widely spaced and badly formed; the second I shows modification at its base. The central point for describing the borders shows above the first I. The L of the inscription is lower than the letters which precede and follow, and its serif joins that of the A. The interval between N and D (at one o'clock) is excessive. The weakness at four o'clock is common to all specimens. Periods (rather than rosettes as on the obverse) are used for punctuation.

F. C. C. Boyd Coll. 4.48 grams, 69.2 grains.

16. (Crosby 21-L). MASATHVSETS ⚔ IN ⚔ The I is unduly thick owing to a flaw. The tips of the second and third branches to the left of the trunk show a progressive defect in many of the specimens in the later stages of the die. The borders have elongated units more closely spaced than on No. 15.

Rev. NEWENGLAND · AN · DO · Inscription begins at eight o'clock. Date and numerals are high on the flan — the I's of the XII have been double-cut, and the serifs of the shorter and earlier forms

3*

are discernible on most specimens. The distinctive mark for this die is the flattening of the inner border at the top, beginning at the first digit of the date. The W is noticeably enlarged; the N's are badly formed.

T. James Clarke Coll. 4.63 grams, 71.5 grains.

17. (Crosby 22-L). Inscription as for No. 16. The central point for describing the borders shows on the trunk of the tree. Many specimens show only part of the outer border. The second upright stroke of the H seems to have been altered or recut. A flaw at the N develops fairly early in the life of the die.

Rev. Die of No. 16.

F. C. C. Boyd Coll. 4.54 grams, 70.1 grains.

18. (Crosby 23-L). MASATHVSETS∴IN∴ The pine tree shows a flaw at the right near the top; the crossed root-hatchings are distinctive. The N of the inscription is faulty. The units of the inner circle are uneven in size. A faint die crack shows at the first S, extending to the base of the tree, while a second is to be seen between T and S.

Rev. Die of Nos. 16-17, but with beginning die-breaks showing.

T. James Clarke Coll. 4.62 grams, 71.3 grains.

19. (Crosby 20-L). MASATHVSETS ∴ IN ∴ Only the two lower branches are paired. The first S of the inscription is distinctive; the V is heavier than usual. The units of the inner border vary slightly in size (below the tree-base).

Rev. Die of Nos. 16-18, but die-flaws show development above the last N and the O, and another through the first period is now visible. A new die crack extends from the outer border to the top of the E in NEW.

F. C. C. Boyd Coll. 4.20 grams, 64.8 grains.

20. (Crosby 18-L). MASATHVSETS ∴ IN ∴ Four limbs of the tree are paired. A die flaw extends from the left end of the ground-line of the tree through the first S of the inscription. Other flaws show be-

tween the H and V, the T and the final S, and a fourth connects the top of the N with the outer border.

Rev. Die of Nos. 16–19. The flaws noted in No. 18 are larger.

T. James Clarke Coll. 4.60 grams, 71.0 grains.

21. (Crosby 17-L). The inscription is as for No. 20. The H is smaller than the other letters. The inner border is smaller and heavier than in No. 20 and in this regard, as well as in the compactness of the tree, more closely resembles No. 19. A large die-flaw obscures the second rosette and another flaw interrupts the outer border at five o'clock (Cf. PLATE VI, g). The obverse of the piece illustrated by Crosby comes from an earlier state of the die. The limbs of the tree are paired with the exception of the third.

Rev. Die of Nos. 16–20. The die flaws of Nos. 19 and 20 show further development and enlargement, but the flaw on No. 22 between the G and L is not to be seen here. This state must therefore be intermediate, and since both Nos. 21 and 22 are known in relatively few specimens, must have come close to the end of the life of the die.

The American Numismatic Society. 4.57 grams, 70.5 grains.⁴

22. (Crosby 16-L). MASATHVSETS ∴ IN ∴ The tree has five pairs of branches and a straight ground-line with hatching uniformly to the left. The lettering, squatty but regular, is without other peculiarity.

Rev. Die of Nos. 16–20. The previously noted flaws are enlarged; an additional one shows between G and L.

T. James Clarke Coll. 4.50 grams, 69.5 grains.

23. (Crosby 16-M). Die of No. 22.

Rev. NEVVENGLAND · AN · DO · The W is formed by repeating V's. The N's have given the engraver trouble. The first three letters of ENGLAND are crowded — the G is higher than it should be.

T. James Clarke Coll. 4.57 grams, 70.6 grains.

⁴ The only other specimen known of this variety is reproduced on PLATE III, 21a from Crosby, Pl. II, 11.

24. (Crosby 23-m). Die of No. 18.
Rev. Die of No. 23 with flaws developed.
 T. James Clarke Coll. 4.33 grams, 66.8 grains.
25. (Crosby 16-o). Die of No. 22 and No. 23, but showing greater wear, especially at first rosette.
Rev. NEVVENGLAND · AN · DO · The first and last digits of the date are heavy and the 2 is distinctive in form. The central point for describing the borders is heavier than usual. The W, as in No. 23, is formed of two V's. The N's show variations. Faint die cracks at the bottom of the die.
 T. James Clarke Coll. 4.55 grams, 70.2 grains.
26. (Crosby 15-o). MASATHVSETS·IN· Pine tree distinguished by save that the first rosette has five beads and the second, seven. The beads of the inner border crowded (at three o'clock). The first A has a slanting cross-piece, the second is filled in. The branches of the tree are evenly paired. The trunk is thicker below the center of the die than above it. The second upright of the N has been lengthened.
Rev. Die of No. 25, with slightly enlarged die cracks.
 T. James Clarke Coll. 4.75 grams, 73.3 grains.
27. (Crosby 18-q). Die of No. 20, with break at top of tree further developed.
Rev. NEWENGLAND · AN · DO Excessive spacing between the 6 and 5 of the date. The X has a pigeon-toed appearance. The large, thin letters of the inscription are in contrast to those of the obverse — they more nearly resemble those which came at the end of the thin-flan Pine Tree shillings (Nos. 13 and 14). The inner border has heavy units. A die break obscures what seems to be a colon preceding AN.
 T. James Clarke Coll. 4.41 grams, 68.1 grains.
28. (Crosby 19-q). MASATHVSETS·IN· Pine tree distinguished by its three pairs of double-curved branches, and straight ground-line with hatching to r. The H and V shorter than the other letters.
Rev. Die of No. 27.
 T. James Clarke Coll. 4.45 grams, 68.7 grains.

29. (Crosby 14-R). MASATHVSETS·IN· The rosettes are formed of four beads. The inscription in small, well-formed letters, the N smaller than the others. The M is recut — apparently to lessen the contrast with the A and S following, which even with this alteration are comparatively small. The lowest branch of the tree is distinctively curved upward.

Rev. NEW:ENGLAND:AN:DO: Date and numerals high. The X is as in No. 27. Colons are used instead of rosettes or periods. Placing one of these after NEW is contrary to the previous usage. The pellets of the colon preceding AN have coalesced. All the N's are small. The inner border with elongated units is not a true circle.

T. James Clarke Coll. 4.81 grams, 74.3 grains.

30. (Crosby 13-s). MASATHVSETS·IN· The rosettes have four beads. The rather scrawny Pine Tree has a trunk of almost uniform thickness from bottom to top. The units of the inner border are unequal in thickness. The die is larger than the flan and only rarely shows any part of the outer border.

Rev. NEWENGLAND·AN·DO· The 5 of the date is S-like; the 2 crowds the inner border. The rosettes have three beads. The inner border with heavy, elongated units set close together, like that of No. 29, is not a true circle.

F. C. C. Boyd Coll. 4.57 grams, 70.6 grains.

31. (Crosby 8-E). MASATH. .ETS IN Heavy-branched tree set high in the field. This badly clipped and worn piece shows only the bases of some of the letters. It is the only specimen known and was formerly in Crosby's collection. The lower element of the E is exceptionally long. The inner border has widely spaced units. The form of the rosettes is not discernible.

Rev. Only the last two digits of the date visible. The E is like that of the obverse. The units of the inner border are carelessly spaced. Punctuation indeterminable.

Massachusetts Historical Society. 2.36 grams, 36.4 grains.

SIXPENCE

32. (Crosby 2 – Oak D). MASATHVSET(· IN): ☿: Pine Tree having curved ground-line (with crossed hatchings beneath) and four pairs of branches, each with spines or needles on both sides. The second A is low and there is a wide interval between it and the following T, which is tilted to the right. The form of the second stop, whether rosette or colon, is not discernible on the specimens available. The combination of rosette and colon at the end of the inscription is not duplicated elsewhere in the coinage.

Rev. Die of Oak Tree 20–22. (N. N. & M., No. 110, p. 20.)¹

F. C. C. Boyd Coll. 2.17 grams, 33.5 grains.

33. (Crosby 1-A). MASATHVSETS · IN · Pine Tree with four pairs of branches resembling No. 28 (Crosby 14-R) in the curve of the lower limbs. A pellet on either side of the trunk. The E encroaches on the inner border, as does also the N.

Rev. NEWENGLAND · ANO · In the field, 1652 and VI. The date is similar in form to that of No. 28. A die crack barely visible in its earlier stages, starts from the top of the V, shows between the first and second digits of the date and extends to the inner border below the second E. The flans are rarely large enough to accommodate the entire die-impress.

F. C. C. Boyd Coll. 2.20 grams, 33.9 grains.

- 33a. Nearly complete legend on obverse, advanced die-break on reverse.

T. James Clarke Coll. 2.06 grams, 31.8 grains.

¹ Oak Tree No. 20 (A.N.S. Coll., 2.21 grams, 34.1 grains) is illustrated for comparison on PLATE V, a.

THREEPENCE

34. (Crosby 1-A¹). MASATHVSETS · Pine Tree with a pellet on either side of the trunk as in No. 33. The branches curve downward as they join the trunk. The inscription begins at twelve o'clock.

Rev. NEWENGLAND · In the field, 1652 and III. The inscription begins at eleven o'clock. The first N is large and the E small. The flans are seldom large enough to accommodate the die-impress.

T. James Clarke Coll. 1.13 grams, 17.5 grains.

35. (Crosby 1-A²). Die of No. 34.

Rev. NEWENGLAND · ANO Die of No. 34 with ANO added. In making this addition, the D of ENGLAND has been recut and reversed in the process, and the A also shows part of the earlier as well as a corrected form. The N is smaller than in the first state of the die. The 5 of the date is poorly formed; the horizontal stroke at the top is lacking. The 2, apparently recut, is excessively large, whereas on the earlier state it is nearer the size of the other digits. Diameter of the borders, 17 mm. and 10 mm., respectively.

T. James Clarke Coll. 1.05 grams, 16.2 grains.

36. (Crosby 2a-B). MASATHVSETS ☼ Pine Tree with three pairs of branches. The trunk is set slightly to the left of the vertical axis of the oval inner border. The rosette is formed of nine beads.

Rev. NEWENGLAND ☼. The lower serifs unite NE and LAN; the serif of the second E projects upward. The flans usually accommodate the design.

T. James Clarke Coll. 1.09 grams, 16.8 grains.

37. (Crosby 2^b-B). Die of No. 36. The H recut — it is now smaller. A bad die break obscures the second A.

Rev. Die of No. 36.

T. James Clarke Coll. 1.71 grams, 26.4 grains.

FABRICATIONS AND IMITATIONS

DESCRIPTIONS

- A. (Crosby Fig. 20, page 63.) MASSACHVSETS · IN · A spindling tree with double ground-line and with short branches bearing "blobs" to represent cones. The units of the inner border form a crude oval and are not uniform in size; they are somewhat larger than those of the outer border. A guide line for the outer border shows clearly. Four S's instead of three mark this die and do not occur elsewhere in the coinage. The "periods" of the inscription are unusual.

Rev. NEW-ENGLAND*AN · DO* The date, 1650 (sic) is separated from the Roman numerals by a horizontal line. The beads of the borders are larger than those on the obverse, and the guide line for the outer border is clearly discernible. The letters of the inscription are unequal in height. The workmanship throughout is crude. Die struck.

Crosby devotes four pages to this and the next-described counterfeits, quoting a letter from Dr. Ammi Brown, a collector of his day, which establishes that this fabrication was in existence by 1854. He comments on the slightness of any expectation of profit from the making of dies for such a piece, in view of the small interest in the entire coinage at that time. The variety used as a pattern for the tree seems to have been our No. 2 (Crosby 4F). None of the Pine Tree coins has its reverse inscription beginning at two o'clock as this one does, nor does any have such punctuation as occurs here. The divergence in weights is in itself sufficient to condemn these pieces. The only other die whose reverse inscription does begin as here, is the Oak Tree No. 3 (Crosby 9-c). Evidently, the intent was to produce a "rarity."

Whoever cut this and the two following dies dated 1650 probably conceived them as patterns for the coinage authorized in 1652. The tree forms given them did not appear until late in the coinage for the Bay Colony — near its end for B. Dr. Ammi Brown's letter does seem to "protest too much." A statement in the catalogue of the Sale of

A. M. Woodward's collection in 1884 (No. 347, p. 21) supplies what may have been the name of the vendor Getchell, withheld by Crosby at Dr. Brown's request, although there is no direct suggestion in the letter that Getchell was the engraver or die-cutter. Boscawen, given as the address of Getchell, is a small town sixteen miles from Concord. Three of the pieces obtained from Getchell at a low cost were sold by Dr. Brown to Joseph C. Mickley for one hundred dollars each. One of the three was a variety of the piece we have called A1, which had had the inscription altered from MASSACHVSETS to MASSATHVSETS. It is the specimen illustrated on PLATE VII, A2. Neither form occurs among the genuine issues.

Crosby rightly rejects all three varieties as spurious. His printing of Dr. Brown's lengthy letter gave undue prominence to the provenience of these coins. When confronted with genuine Pine Tree pieces, they are to be condemned on the basis of workmanship, weight and fabric but most of all because of the impossible date which they bear.

T. James Clarke Coll. 4.73 grams, 73.0 grains.

Ex Mickley, Bushnell, Parmalee, Granberg and Charles Clapp Collections.

- B. MASATHVSETS ∴ IN ∴ The inscription begins at five o'clock. Small pine tree with three pairs of branches. For the tree, our No. 1 (Crosby 12-1) seems to have been taken for its prototype, although the size is nearer that of the thick-flan form. The letters of the inscription are unequal in height. The second rosette is poorly cut. *Rev.* NEWENGLAND:AN DO: Colon omitted between AN and DO. In the field, 1650 and XII. The 6 of the date resembles that of No. 2 (Crosby 4r) although the placing of the date is different.

From the letter of Dr. Ammi Brown, we learn that this piece was probably the work of the perpetrator of A.

T. James Clarke Coll. 4.98 grams, 76.9 grains.

Ex Mickley, Bushnell, Parmalee and Charles Clapp Collections.

- C. MASATHVSETS ∴ IN ∴ The Pine Tree has four pairs of straight branches and the form of the thick flan issues. The beads of the inner border are large and regular. The first S of the inscription is unduly small.

Rev. NEWENGLAND · AN · DO · High in the central field, 1650 and XII. The final digit is mistakenly described in Dr. Brown's letter as having been altered from a 2.

F. C. C. Boyd Coll. 3.68 grams, 56.8 grains.

Ex Collection Dr. Shurtleff, (Cf. Woodward Sale, Oct. 26, 1881, 1708 and July 24, 1884, 347), DeWitt Smith and Brand.

- D. (Crosby 10-P). MASATHVSETS · IN · Commonly known as the cog-wheel shilling. This specimen is the only one known. It was included by Crosby, and found a place in such important collections as the McCoy, Mickley, Newcomb, Clapp and Wurzbach. The nickname is derived from the heavy inner borders of both obverse and reverse, which are not like any others in this entire coinage. The tree is not markedly different from other large-flan Pine Tree shillings, it seems to have copied that of No. 3. The letters of the inscription follow precedent with reasonable closeness, except for the periods which are heavy. The M is clumsy and the second S upside down. The outer border is light and entirely different from the inner one, although very little shows on the flan for either obverse or reverse.

Rev. NEWENGLAND · AN · DO · The date and numerals are a little larger than usual. The 5 is different in form; the XII is large in scale and its letters are very thin. Their placement in the field is "off-key." As on the obverse, the inscription periods are large and heavy. The heavy inner cog-wheel border intercepts the L at the top, indicating that the "beads" were cut *after* the inscription, again contrary to practice. The coin has been considered questionable by many, and is here treated as a fabrication. Its presence in the McCoy Sale (1864) dates it before that year. The weight slightly exceeds the norm.

T. James Clarke Coll. 4.81 grams, 74.3 grains.

- E. MASA(TH)VSETS ∴ IN ∴ Struck in bronze. Pine Tree with solid trunk placed to the right of the vertical axis. The inner border is of elongated units unequal in size. Lettering and rosettes weak. No outer border visible. Very irregular edges of the die at lower left.

Rev. NE(W E)NGLAD (sic) ∴ AN · DO ∴. Omission of the N in ENGLAD is the distinctive characteristic. Inner border composed

of units reminding of cog-wheel variety (D). The circle accurately described, the units regular in size. Rosettes of seven and six beads, respectively. The date is excessively large. Said to have come from England. Not in Crosby.

T. James Clarke Coll. 6.98 grams, 107.7 grains.

- F. MA2ATHV2ET2 : IN · Pine Tree with curved branches, thick twisted trunk and wide ground-line with pronounced hatchings for the roots. The beads of both borders weak and unequal in size, unlike those on genuine specimens. The inner border is very light at the lower right. Note the reversed S's of the inscription and the incomplete A. The second stroke of the V is doubled.

Rev. NEWENGLAND · ANDOM · Border units like those of obverse. The W is formed by closely interlacing two V's. The 6 of the date is like that of No. 2 (Crosby 4F). The weights of four known specimens vary between 70.2 and 72.2 grains.

F. C. C. Boyd Coll. 4.55 grams, 70.2 grains.

- G. MASATMVS TS IN ∴ The Pine Tree remotely resembles that of No. 1 (Crosby 12-1). The flan is of the reduced size of the final group (Nos. 14-30). The borders form true circles and have beads which are equal in size. Of the inscription, the first A is double-cut and M is mistakenly engraved for H. The visible rosette has four beads.

Rev. NEW.NGEFD · · AN ∴ DO ∴ The 2 of the date is reversed. The X of the Roman numerals is nearly twice the height of the I's. The inner border is not continuous; the outer crowds the inscription.

The American Numismatic Society Coll. 4.65 grams, 71.8 grains.

- H. (Crosby 11-H; described but not illustrated by him). "The lower branch at the left is very near the ground; the trunk is crooked. Four heavy roots left of the trunk below, and two above the ground at right, point to the right. The legend on this variety is enclosed in a plain ring, not beaded. Punctuated with a point and a group of seven. This may be an early counterfeit." The unbeaded border is distinctive.

Rev. Crosby's Table shows punctuation of inscription like that of No. 1. The inner border (large, round beads) has a diameter greater

than that of any other variety recorded by him. Whereabouts unknown.

- I. (Crosby 25-r). Described but not illustrated by Crosby. An engraving of the piece may be seen in the supplementary plate (XX) to Dickeson's *American Numismatic Manual* where it is described as being in the collection of Dr. Augustus Shurtleff of Brookline, Mass. (reproduced on PLATE VIII). At the sale of this collection (by W. E. Woodward, April 28, 1863, lot 1876), it was acquired by Charles I. Bushnell. In the sale of his collection, June 20, 1882, it was lot 176, and is there described as a struck piece that has had both letters and tree tooled. Part of the legend is characterized as "weak" and "indecipherable," and "unique?" is added. Its present whereabouts is unknown to me. Crosby describes it: "Branches (5) all in pairs, curving parallel, full of fine leaves; the trunk tapers from the ground to the top; the legend is not distinct, but probably is MASSATV-SETS · IN · This piece has a modern appearance and its genuineness is doubted."

Rev. Dickeson's illustration gives the inscription as NEW ENGLAND. Note the distinctive omission of AN DO. Crosby gives the diameter of the inner border as the same as for our No. 6; the outer border is the smallest listed by him. Apparently, the flan is the size of the small-flan issues. Variety with MASSASTHVSETS which is described in the Jenks Sale, 1866, lot 996, and which is probably the coin from the W. E. Woodward Sale, Dec. 1865, lot 1598. This can hardly be 6-x, since Woodward described it in his Oct. 1863 sale, and therefore would not confuse the two varieties.

- J. Sixpence with inscription as on No. 32. Pine Tree with short, curved ground-line, and four pairs of branches, the upper two of which are very short. The inner border of small regular beads is flattened at the bottom; the outer border generally shows.

Rev. NEWENGLAND · ANO · The 5 of the date is unusually large. Both E's of the inscription are small, the W is poorly formed, the O is flattened and the crosspiece of the second A is low. The inner border, which is also flattened at the bottom, has beads which are

unevenly spaced. Both specimens known to me are overweight —
a. 46.0 grams, b. 45.4 grams.

T. James Clarke Coll. 2.94 grams, 45.4 grains.

- K. Threepence with MASATHUSETS ∴ (IN omitted). Crudely formed tree with three pairs of branches. Borders of disproportionately heavy beads.

Rev. NEW ENGLAND ∴ The date is high in the field and the heavily-beaded borders are not true circles.

T. James Clarke Coll. 1.15 grams, 17.8 grains.

WYATT'S FABRICATIONS

- L. Sixpence. Inscription as for No. 33, of which this is an excellent copy. The tree is better centered than in the prototype — the pellets on either side of the trunk are omitted. Both borders are regular and complete.

Rev. Accurate copy of No. 33. The 5 of the date is not very successful. The N's are oversized and the W better formed than on the original. Both borders complete.

The American Numismatic Society Coll. 2.18 grams, 33.6 grains.

- M. Threepence. Nearer to No. 36 (Crosby 2a-B) than to No. 35, although there is a resemblance to some of the later shillings in the tree form. *Rev.* Copy of the reverse of No. 36. Die-break below the first digit of the date. The rosette has seven beads as compared with nine of the original.

The American Numismatic Society Coll. 1.14 grams, 17.6 grains.

- N. A combination of the obverse of M with the reverse of the Wyatt Oak Tree twopence.

University of Michigan Coll.

- O. Penny. ..SATHVS..... Scrawny tree with heavy ground-line, two branches to the left and two to the right. The inner border (not a true circle) is of disproportionately heavy beads. Only part of the inscription is on the flan; apparently it begins at eight o'clock.

Rev.GLA.. 1652 and I. The inscription begins at eight o'clock. The inner border has heavy beads.

The American Numismatic Society Coll. 0.38 grams, 5.9 grains. (PLATE VII, O).
0.45 grams, 7.0 grains. (PLATE VII, P).

REPRODUCTIONS

- X. Fairly accurate copy of No. 9 (Crosby 1b-D). The horizontal diameter of the inner circle is 17 mm; that of the outer (vertically) 18 mm.

Rev Copy of inscription of No. 9 with the beginning slightly higher on the flan. An inner border, surrounding the date, bears the words FACSIMILE · PINE · TREE · SHILLING · INTERNATIONAL · STERLING · The weight of the specimen in the American Numismatic Society collection is 7.23 grams (111.6 grains); that in the Massachusetts Historical Society collection, 7.65 grams (118.1 grains).

- Y. Reproduction of No. 17 (Crosby 23-L), with an added outer border making the diameter of the flan 31 mm. The inscription on the outer border completes that begun on the reverse, and reads IN WHAT IS NOW THE UNITED STATES.

Rev. Accurate copy of the reverse of No. 17 (Crosby die L); with close following of such details as the enlarged W and the omitted beads of the inner border just below that letter. The inscription of the outer border reads THE FIRST SILVER COIN ISSUED. This reproduction was issued by Thomas L. Elder. The piece illustrated is of white metal and the weight is 6.51 grams (100.4 grains).

Massachusetts Historical Society specimen.

- Z. MASATHVSETS · IN ☼. Pine Tree in a circle of uniformly spaced beads, 23 mm. in diameter. Outer rim milled (diameter 37.5 mm.). The pine tree resembles that of No. 1 (Crosby 12-1).

Rev. NEWENGLAND:AN:DOM ☼. Occupying the central field in three lines IV / SHILLING / 1652. Diameter of the inner border 25 mm.

The specimen in the collection of the American Numismatic Society is in the form of a locket and is believed to have been sold at the Columbian World's Fair (1892-3).

This denomination, of course, was never issued by the Bay Colony. It was never intended to mislead and is in the nature of a commemorative issue.

PLATES

I



SHILLINGS (OAK, a-b; PINE, 1-6)



SHILLINGS

I



SHILLINGS (OAK, a-b; PINE, 1-6)



7



8



9



10



11



12



13



14



SHILLINGS

III



15



16



17



18



19



20



21



21a



22



SHILLINGS

IV



23



24



25



26



27



28



29



30



31



SHILLINGS

III



15



16



17



18



19



20



21



21a



22



SHILLINGS

IV



23



24



25



26



27



28



29



30

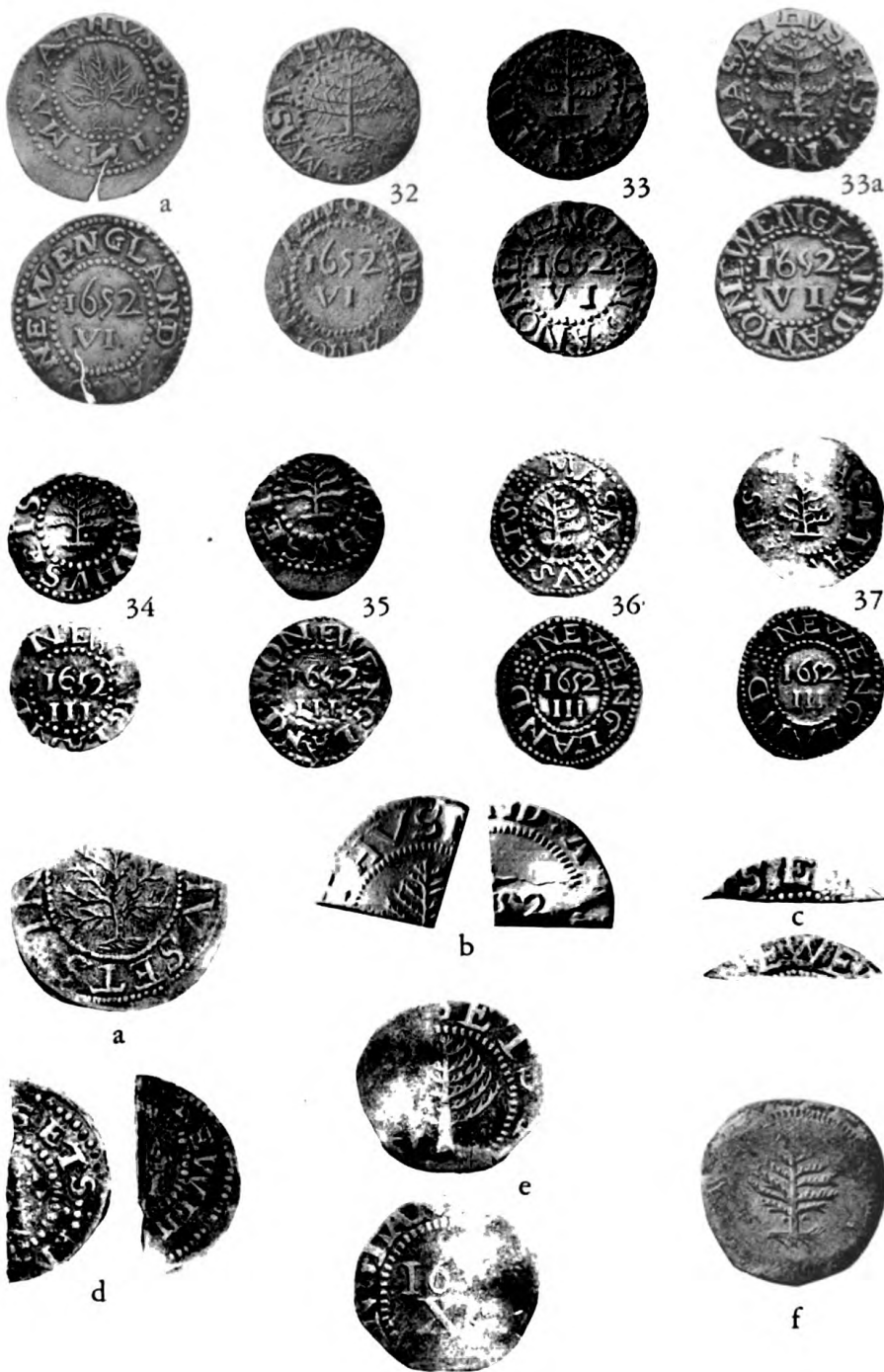


31



SHILLINGS

v



SIXPENCE (32-33a) THREEPENCE (34-37)
MUTILATIONS (a-f)



WITCH PIECES (a-c) DIE DAMAGE (d-h)

VII



A₁



A₂



B



C



D



E



O



P

FABRICATIONS AND IMITATIONS

VIII



F



G



I



J



K



L



M



N



FABRICATIONS AND IMITATIONS

VII



A₁



A₂



B



C



D



E



O



P

FABRICATIONS AND IMITATIONS

VIII



F



G



I



J



K



L



M



N



FABRICATIONS AND IMITATIONS

TABLES OF VARIETIES OF PINE TREE COINS.
SHILLINGS.—OBVERSES.

Legend and Punctuation.	High. Wide.	Tree.	Points at	Direction of Roots, &c.	Diam. Rings.	No.	Grains.	Size, Form, &c.	Letters.	Obv.	With Rev.
MASATHVNSTS 12	9	74	Right foot of H.	Irregular, horizontal.	10	17	53	Irregular, round.	Large, heavy.	1a	C
MASATHVNSTS 12	9	74	Right foot of H.	Crossing, heavy.	10	17	53	Medium, oval.	Large, heavy.	1b	C
MASATHVNSTS 12	8	84	Left part of 2d S.	Indefinite, heavy.	10	17	46	Large, oval.	Medium, heavy.	2a	A1
MASATHVNSTS 12	8	84	Left part of 2d S.	Curve left and right.	10	17	46	Large, oval.	Medium, heavy.	2b	A2
MASATHVNSTS 12	9	94	Left part of V.	Heavy, very short.	11	18	56	Small, mostly oval.	Large, medium.	3	F
MASATHVNSTS 12	10	7	Just left of foot V.	Fibrous, left and right.	11	18	57	Medium, oval.	Large, heavy.	4	F
MASATHVNSTS 12	9	8	Right foot of H.	Three left, four right.	10	17	54	Small, oval.	Large, medium.	5	Ba
MASATHVNSTS 12	74	6	Just left of H.	Four to left.	10	16	48	Large, oblong square.	Small, open.	6	K
MASATHVNSTS 12	10	7	Between V and S.	Long, crossing.	11	17	60	Small, oval.	Large, thin.	7	B3
MASATHVNSTS 12	8	84	At V?	Short, right.	104	9	42?	Large, oval.	Large.	8	E
MASATHVNSTS 12	8	9	At S.	Left and right.	10	17?	53?	Medium, oval.	Large, thin.	9	G
MASATHVNSTS 12	84	84	At left part of V.	Left, down, and right.	94	164	30	Very large, ob. square.	Large, wide.	10	P
MASATHVNSTS 12	9	74	At S.	Left and right.	12	18	51	Large, round.	Large.	11	H
MASATHVNSTS 12	8	7	At S.	Four long, right.	11	174	51	Small, oval and ob. sq.	Medium.	12	I
MASATHVNSTS 12	7	7	To left of V.	Short, down.	8	144	47	Large, oblong square.	Small.	13	S
MASATHVNSTS 12	74	7	Between H and V.	Undefined.	84	144	48	Large, oblong square.	Small.	14	R
MASATHVNSTS 12	64	7	Just right of V.	To left.	8	144	39	Round and oval.	Medium.	15	O
MASATHVNSTS 12	7	7	At right part of V.	Seven to left.	74	144	42	Medium, oval.	Small.	16	L
MASATHVNSTS 12	64	7	At right part of V.	Four to left.	7	14	37	Oval and ob. square.	Small.	17	O
MASATHVNSTS 12	7	7	Between H and V.	Short, to left.	8	15	39	Medium ob. square.	Small.	18	L
MASATHVNSTS 12	7	74	Between V and S.	Short, to right.	84	15	32	Large, oval and ob. sq.	Medium and small.	19	Q
MASATHVNSTS 12	6	64	Right of V.	Very light, left.	7	14	36	Medium ob. square.	Small.	20	L
MASATHVNSTS 12	6	64	Left part of S.	Short, down.	7	14	41	Medium ob. square.	Medium.	21	L
MASATHVNSTS 12	6	64	Between V and S.	Short, right.	7	14	41	Medium, irregular.	Medium.	22	L
MASATHVNSTS 12	7	74	Just left of V.	Left and right.	84	144	46	Medium, oval.	Medium.	23	L
MASATHVNSTS 12	8	8	At S.	Many short, to right.	84	14	37	Large oblong square.	Small.	24	N
MASATHVNSTS 12	64	7	Between T and V?	Indistinct.	8	134	37	Large, round.	Medium.	25	T

SIXPENCES.—OBVERSES.

Legend and Punctuation.	High. Wide.	Tree.	Points at	Direction of Roots, &c.	Diam. Rings.	No.	Grains.	Size, Form, &c.	Letters.	Obv.	With Rev.
MASATHVNSTS 12	6	54	IL	Down, short.	7	114	35	Medium, round.	Heavy.	1	A
MASATHVNSTS 12	6	7	Between V and S.	Down, short.	7	12	37	Medium, round.	Irregular.	2	Oak D

THREEPENCES.—OBVERSES.

Legend and Punctuation.	High. Wide.	Tree.	Points at	Direction of Roots, &c.	Diam. Rings.	No.	Grains.	Size, Form, &c.	Letters.	Obv.	With Rev.
MASATHVNSTS 12	4	5	M	Right, short.	54	10	30	Large, round.	Heavy.	1	A1
MASATHVNSTS 12	4	4	Left foot of M.	Left, long.	5	94	33	Small, round.	Light.	2a	B
MASATHVNSTS 12	4	4	?	Left, long.	5	9	9	Small, round.	Irregular.	2b	B

TABLES OF VARIETIES OF PINE TREE COINS.

SHILLINGS. — REVERSES.

Legend and Punctuation.	Diam. Rings. Inner. Outer. No.	Grains of Inner Ring. Size, &c.	Below XII.	Letters.	Numerals.	Figures.	Reverse.	With Obverse.
NEW ENGLAND. AN. DOM.	104 17 61	Medium, oval.	M.	Small, Ns reversed.	Medium.	Small.	A1	36
NEW ENGLAND. AN. DOM.	104 17 61	Medium, oval.	M.	Heavier.	Heavier.	Heavier.	A2	36
NEW ENGLAND. AN. DOM.	104 17 57	Small, oval.	M.	Medium, light.	Large.	Light.	B1	5
NEW ENGLAND. AN. DOM.	104 17 55	Large.	M.	Recut.	Recut.	Recut.	B2	5
NEW ENGLAND. AN. DOM.	104 17 55	Still larger.	M.	Again recut.	Recut.	0 large.	B3	7
NEW ENGLAND. AN. DOM.	104 17 58	Medium, oval.	M.	Medium, heavy.	Large.	Large.	C	14
NEW ENGLAND. AN. DOM.	10 104 45	Large, oval.	OM.	Large, heavy.	Medium.	Medium.	D	15
NEW ENGLAND. AN. DOM.	11 9 40?	Large, oval.	?	Large, illegible.	Large.	Light.	E	8
NEW ENGLAND. AN. DOM.	11 18 56	Medium, oval.	OM.	Large, light.	Large.	Heavy.	F	3
NEW ENGLAND. AN. DOM.	10 17? 50?	Medium, oval.	OM.	Large, light.	Large.	Heavy.	G	9
NEW ENGLAND. AN. DOM.	12 14 53	Large, round.	M.	Medium, heavy.	Small.	Medium.	H	11
NEW ENGLAND. AN. DOM.	104 17 74	Medium, oblong square.	OM.	Medium, heavy.	Small.	Medium.	I	12
NEW ENGLAND. AN. DOM.	8 14 80	Medium, nearly square.	OM.	Small, irregular.	Heavy.	Medium.	K	6
NEW ENGLAND. AN. DO.	74 138 41	Medium, oval.	AN. D.	Medium, heavy.	Large.	Heavy.	L	10-21 14-22 18-23 20-25
NEW ENGLAND. AN. DO.	8 144 46	Medium, semi-oval.	O.	Medium, irregular.	Heavy.	Heavy.	M	16
NEW ENGLAND. AN. DO.	8 15 32	Large, oblong square.	30.	Small, irregular.	Wide.	Heavy.	N	23
NEW ENGLAND. AN. DO.	8 14 43	Medium, irregular oval.	10.	Medium, irregular.	Heavy.	Heavy.	O	34
NEW ENGLAND. AN. DO.	104 18 31	Very large, oblong square.	10.	Medium.	Large.	Large.	P	15
NEW ENGLAND. AN. DO.	84 15 33	Large, oval and ob. square.	10.	Large, ill formed.	Wide.	Wide.	Q	16
NEW ENGLAND. AN. DO.	8 144 47	Large, oblong square.	10.	Small.	Heavy.	Heavy.	R	18
NEW ENGLAND. AN. DO.	8 144 45	Large, oblong square.	10.	Small.	Heavy.	Heavy.	S	19
NEW ENGLAND. AN. DO.	74 134 35	Large, round.	D.	Medium, heavy.	Large.	Large.	T	13

SIXPENCES. — REVERSES.

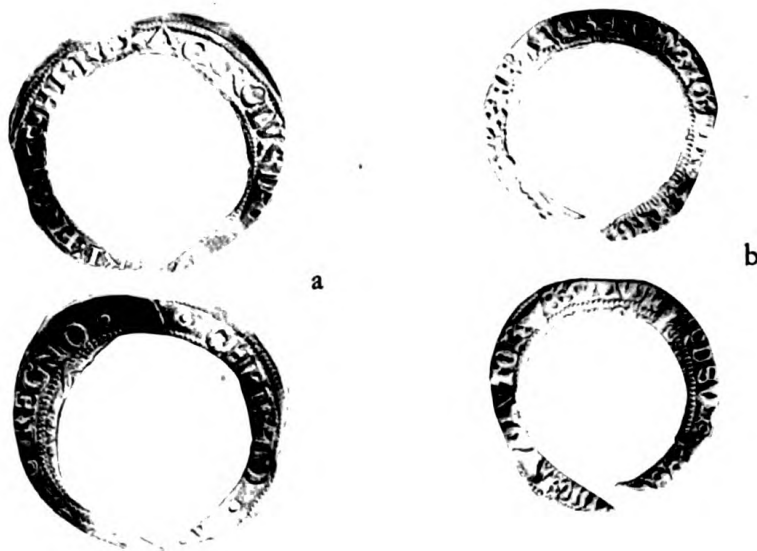
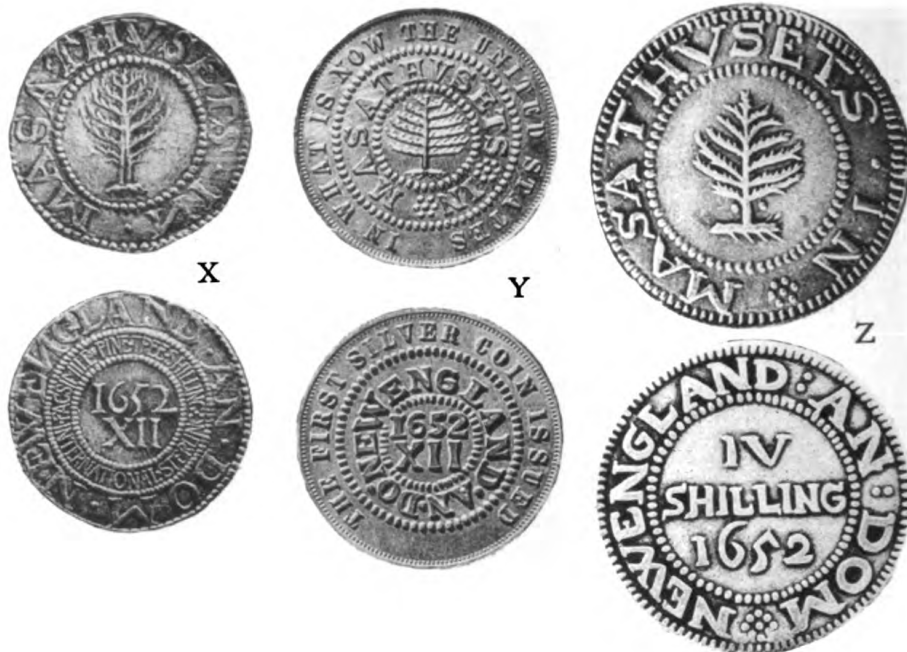
Legend and Punctuation.	Diam. Rings. Inner. Outer. No.	Grains of Inner Ring. Size, &c.	Below VI.	Letters.	Numerals.	Figures.	Reverse.	With Obverse.
NEW ENGLAND. ANO.	7 114 35	Medium, round.	AN	Large, heavy.	Wide.	Heavy.	A	1

THREEPENCES. — REVERSES.

Legend and Punctuation.	Diam. Rings. Inner. Outer. No.	Grains of Inner Ring. Size, &c.	Below III.	Letters.	Numerals.	Figures.	Reverse.	With Obverse.
NEW ENGLAND. . .	54 10 20	Large, round.	A	Large, heavy.	Heavy.	6 high.	A1	1
NEW ENGLAND. ANO	54 10 20	Medium, round.	A	Irregular, lighter.	Light.	2 large.	A3	1
NEW ENGLAND. ?	54 94 30	Small, round.	A	Small.	Small.	Light.	B	26

(Reproduced from Crosby's "Early Coins of America," pp. 56-57)

XI



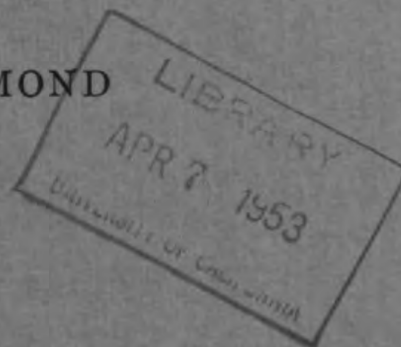
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21
NUMISMATIC NOTES AND MONOGRAPHS

No. 126

MACEDONIAN REGAL COINAGE TO 413 B.C.

By DORIS RAYMOND



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET, NEW YORK

1953

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Founded 1858 — Incorporated 1865

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NEW YORK 32, N. Y.

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NUMISMATIC NOTES AND MONOGRAPHS

Number 126

NUMISMATIC NOTES AND MONOGRAPHS

is devoted to essays and treatises on subjects relating
to coins, paper money, medals and decorations.

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Macedonian Regal Coinage to 413 B. C.

By DORIS RAYMOND



THE AMERICAN NUMISMATIC SOCIETY

BROADWAY AT 156TH STREET

NEW YORK

1953

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PREFACE

This study was undertaken for two purposes: 1) to assemble as complete as possible a *corpus* of Macedonian regal coins and 2) to seek to arrange them in coherent order. It was felt that the confusion with regard to this series of coins was due largely to its piecemeal study. With a view to the accomplishment of the first purpose coins were sought from three sources: museums and public collections, private collectors, and dealers. The response from all was most gratifying. I am happy to acknowledge the receipt of casts, photographs, and other information from the responsible authorities of the following museums and public collections: Athens, National Numismatic Museum; the Berlin collections; Boston, Museum of Fine Arts; Brussels, Bibliothèque Nationale; Cambridge University; Copenhagen, Royal Collection of Coins and Medals; Glasgow, Hunterian Museum; the Gotha collection; London, British Museum, Department of Coins; the Munich collection; New York, Museum of the American Numismatic Society; Oxford University; Paris, Cabinet des Médailles of the Bibliothèque Nationale; the Vienna collection; Yale University. Private collectors have been very willing to permit their treasures to be studied and published. I have been able to secure material, for which I make grateful acknowledgement, from Belgium, from M. Desneux; from France, from MM. Delepierre, Larosière and Ravel; from Great Britain, from Mssrs. Gillet, Lambe, and May; from Greece, from M. Empedocles; from the United States, from Mr. Dewing, Mrs. Newell, Mr. Noe and Mr. Robinson. Some of these collections are large, others small, but whatever the size, they have been the source of much valuable material. All dealers have made their current stocks available to me for study, from the originals, from casts, or from photographs; some have given me news of private collectors who had material of concern to me. I should like particularly to thank Mr. Cahn of Basel, Mr. Forrer of London, Mr.

Gans of New York, Dr. Hirsch of New York and Geneva, and Mr. Kellad of Jersey City for their generosity and courtesy. However, it cannot be hoped that the ultimate in completeness has been attained. I know of a number of tetrobols in Geneva (to which I hope someday to have access) and another octadrachm from the Afghanistan hoard which I have not been able to see. I should be very grateful for news or casts of other coins in this series.

A doctoral dissertation, of which this is a remote relative, encompassed a survey of all Macedonian regal coinage from Alexander I to Philip II. Since it was clear that so ambitious a study would be beyond the compass of a monograph, a division was made at the point where a change of standard occurred, at the end of the coinage of Perdikkas II. It is hoped that a second monograph, including the coins of Archelaus and his successors, will follow on this without too long a delay.

In the course of this study I have received much valuable assistance, cheerfully given, from a number of persons. To the late E. T. Newell, who gave me my earliest encouragement in the task, my debt is unbounded. All who have crossed his path know his generosity with his magnificent collection of coins as well as with his time, learning and judgment. To David M. Robinson, under whom I took my degree, I owe not only unlimited access to all the Olynthus material and to his own collection, but also the same access to his time and advice. I am deeply obligated to him, for he is a constant source of inspiration. E. S. G. Robinson of the British Museum and C. H. V. Sutherland of Oxford University have been most helpful on a number of points which must have seemed to them both time-consuming and unimportant. The staff of the American Numismatic Society deserves any credit due anyone for this study. S. P. Noe and S. M. Mosser have borne the brunt of helping me; without their knowledge and experience to draw on I should never have finished my task. To D. Baker are due the excellent photographs from which the plates were made. I am happy to be able to thank A. R. Bellinger of Yale University for reading this in very rough draft and offering me many

helpful suggestions. L. B. Yates of the University of Mississippi has smoothed out many rough spots. Violet E. Baker must take credit for whatever uniformity of format exists; she made the final copy for the press and eradicated my most violent inconsistencies. In spite of all this help, which I acknowledge gratefully and wonderingly, the conclusions and hypotheses herein put forth are my own and no blame can fall on anyone else.

Finally, it gives me great pleasure to extend my thanks to the Board of Trustees for Institutions of Higher Learning of the State of Mississippi for the financial assistance which made possible a final visit to the Museum of the American Numismatic Society to complete work on this manuscript.

CHAPTER I

EARLY HISTORY AND GEOGRAPHY OF MACEDONIA

While there is no period of antiquity of which we have complete knowledge, in the case of some periods and some places, we know very little indeed. One such place is the Thraco-Macedonian coastal and hinterland area; one such period is practically all the time before the outbreak of the Peloponnesian War. Of Macedonia itself, even the boundaries are uncertain; the inhabitants are scarcely more than a name; the kings, until the end of the sixth century, are a legend.

Geyer and Hoffman (*RE*, s.v., Makedonia) have done all that is possible with the early history, topography and ethnology of the area.¹ The literary sources² are extremely unrevealing, and archaeological investigations have been so few in number as to provide indications of associations in lieu of concrete evidence.³ The Thraceward region was connected by tradition both with the Peloponnese and with Asia Minor. Archaeological evidence furnishes some Minoan and some later Greek artifacts, in addition to material with Danubian affiliations, which do not particularly concern us here. Tradition connects the Bacchiad family of Corinth, in the eighth century, with Lyncestis and even with the mines used later by Damastion; Periander, about the end of the seventh or the beginning of the sixth century, is the reputed founder of both Apollonia and Potidaea, the former at the western end of the later Via Egnatia, the latter beyond its eastern

¹ Other modern works on Macedonia, such as Hoffmann, *Die Makedonien*, Paribeni, R., *La Macedonia sino ad Alessandro Magno*, and Geyer, *Makedonien bis zur Thronbesteigung Philipps II*, add nothing new or different.

² Herodotus, Thucydides, and Strabo contain the most valuable material. Demosthenes contributes occasional incidental information; Justinus, who epitomized Pompeius Trogus, is of some importance when he confirms another author, but useless as an independent authority.

³ See Casson, *Macedonia, Thrace and Illyria*, *passim*.

termination. Tradition likewise connects the Eretrians with Edessa, saying that they settled here on their return from Troy.⁴ They may have transformed themselves into that native tribe of Chalcidians whom colonists from Euboea met when first they ventured to Chalcidice to settle. Pisistratus, in the middle of the sixth century, must have known something of the country to which he fled.

From the time of Homer, there has been traditionally a close relationship between Asia Minor and northern Greece. The Thracians, Bryges, and Phrygians⁵ were settled on both sides of the Aegean. Rhoesus came from Thrace with his miraculous steeds to aid the Trojans. The story of the garden of Midas was localized on both sides of the sea. The numismatic evidence which confirms this tradition is presented in Chapter II. Herodotus (VI,47) states that Thasos was colonized by those who came with Cadmus from Phoenicia, five generations from Herakles. We know from Archilochus' shameless boast of his unmilitary attitude that it was recolonized from Paros in the seventh century.⁶ Abdera, in legend founded by Herakles, was first settled from Clazomenae in the middle of the seventh century and from Teos about a century later.⁷ Histiaeus' choice of Myrcinus, in the heart of the metal-producing region, was certainly based on some knowledge of the country.⁸

Of the people of Macedonia and their nature and name, there is an exasperating lack of knowledge. The earliest references are in Herodotus. Whether or not it be of any significance, he uses the form "Makednon" in references to the people in general; speaking of the country and the kings, he uses "Makedonia;" the kings' subjects, from the end of the sixth century, are "Makedonoi."⁹ In Book I,

⁴ Eretrians at Edessa: cf. *CAH* III, 651.

⁵ Thracians, Phrygians, and Bryges: *CAH* II, 12, 17, 284, 490; Myres, *Who Were the Greeks?*, 343, 441.

⁶ *Anthologia Lyra Graeca*, I (Diehls), 213, no. 6; cf. Thuc., IV, 104.

⁷ In this case we have a double association, since Herakles was the Dorian hero *par excellence*.
⁸ Herod., V, 11.

⁹ The form "Makednon" is used only by Herodotus; *μακεδνός* is used by Homer (*Od.* VII, 106) with the meaning "tall, lofty" — can this reflect the physique of the

56ff., where he discusses early racial and tribal movements and locations in Greece, he mentions the Pelasgians as driven out of Histiaiotis (in northwest Thessaly) to dwell in Pindus in a section "called Makednon."¹⁰ In Book VIII, 43, describing the composition of the Greek fleet before Salamis, Herodotus lists the Sicyonians, Epidaurians, Troezenians and Hermionians, "these being, except for the Hermionians, a Doric and Makednon race."¹¹ The kings, from the time of Alexander I, based their claims of Greek descent on their legendary association with Argos,¹² but the legend makes no mention of any Macedonians but the kings coming from there. No other ancient writer says anything about the people.

The extent of the kingdom of Macedonia is as ill-defined as its history is fragmentary. Thucydides, II, 99, describes certain tribal areas as being part of it, but gives no fixed geographical boundaries. He seems to make a distinction between the upper country, whose tribes — Lyncestians, Elimiotas and others — were allies and subject, though they had their own kings, and the lower country, ἡ παρὰ θάλασσαν νῦν Μακεδονία, which Perdikkas ruled at the beginning of

Macedonians? Hesiod (frag. 3, Loeb Classical Library) states that Zeus was the father, by Thyia, of two sons, Magnes and Makedon. The latter may be the eponym of the Macedonians.

¹⁰ Whether Pindus is the name of a Dorian town southeast of Mt. Oeta (How and Wells, *Commentary on Herodotus*, *ad loc.*), or the Pindus range, is uncertain. Myres, *Who Were the Greeks?*, 151, calls it a general name for the main highland watershed of peninsular Greece, north and west of Thessaly.

¹¹ How and Wells, *ad loc.*, suggest that he may have been referring to an otherwise unknown tradition connecting the Dorians in northwest Thessaly and Macedonia.

¹² The legendary descent from the Temenid house at Argos was accepted by the Hellanodicae to whom Alexander "proved" that he was an Argive; he himself competed in a footrace, running a dead heat. There is no record of his having run the deciding heat, but perhaps these details were given Herodotus inaccurately. The tribe to which the kings belonged was called the Argeadae (Strabo, 329, fr. 11); Appian (*Syr.* 63) states that their name came from Argos in Oresteia. The fact that a section of upper Macedonia, in which there was a town Argos, was called Orestis, points to a Peloponnesian connection. The district lies in the region to which, according to legend, the founders first came from the south. It is to be noted that the connection with Argos applies only to the *kings* and does not include the people themselves.

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the Peloponnesian War and which Alexander and his forefathers had accumulated. It is possible to interpret some rather loose statements of Herodotus by means of this chapter of Thucydides, statements which are hard to reconcile with one another since the "Father of History" uses the words *Thrace*, or *Thracians* and *Macedonia*, or *Macedonians*, confusingly in his account of the events before and during the Persian Wars. If a distinction is made between the extent of the kingdom at the beginning of the fifth century and at the beginning of the Peloponnesian War (or at the time Herodotus was writing his history) many difficulties are resolved. See below, pp. 8, 10–12.

Herodotus, VIII, 137–139, is the chief source for the legendary history of the kings.¹³ His account makes no mention of two oracles (or two versions of one oracle),¹⁴ which can therefore be presumed to be of later date, since surely he would not fail to mention a current oracle. Justinus, VII, 1–4, epitomizing Pompeius Trogus, supplements

¹³ Cf. Thucydides, II, 99 and V, 80.

¹⁴ The older oracle is given by the Scholiast to Clement of Alexandria, *Protrepticon*, II, 111P: "Take heed, godlike Caranus, and store up my word in your mind. Leave Argos and Hellas of the fair women, and go to the springs of Haliacmon. There when first you see goats grazing, it is your fate to dwell much envied, you and all your family." The second oracle, or a revised version of the first, is given by Diodorus Siculus, VII, 16, 1: (it was addressed to Perdikkas) "There is a royal might over a wealth-producing land for the reverend sons of Temenus. For aegis-bearing Zeus gives it. But go in haste to the Bottiaean land of many flocks. There if you see gleaming-horned, snow-white goats sunk in sleep on the floor of that ground, sacrifice to the blessed gods and found the fortress of a city." Parke, *History of the Delphic Oracle*, 65–66, whose translations I give, points out that, aside from the recipient of the prophecy, the two oracles have practically the same content except for the one item which serves to indicate which is the earlier. If it be remembered that Philip transferred the capital of Macedonia from Aegae to Pella, it is immediately apparent that the second version must have been current after that change. The first, which prophesies that the royal house will always have its seat at Aegae may go back to the fifth century. Parke would connect it with the time when Alexander I had received recognition in Greece and had dedicated his golden statue at Delphi: "Delphi returned the compliment by providing a document in support of his genealogy." I believe it cannot be dated to a time when Herodotus was writing, but it may go back to the fifth century.

the legend of Herodotus by including some of the subject matter of the oracle and enlarging upon it. Satyrus (frag. 21; *F. H. G.* III, 164) gives a variant list of the mythical kings; Theopompus (frag. 30; *F. H. G.* I, 283) places Temenus, the Argive ancestor of the kings, eleventh in descent from Herakles. Demosthenes, (*Phil.* III, 31) dismisses all the genealogies with the statement that Philip is no Hellene, has no kinship with any, and is not even a respectable barbarian. Other fourth century and later references to the legendary history may be disregarded as biased by the sympathies of their authors. It is only the account of Herodotus which has any claim to authority; in view of the increasing proof of the credibility of Herodotus, it is safe to accept the essential core of the story: the departure from Argos, the danger on the way, and the final establishment of a dynasty in Macedonia. (See also note 12.)

The legend Herodotus recounts of the founding of the Macedonian kingdom is in his best vein as a story-teller. Three brothers of the house of Temenos of Argos left home, went to Illyria and thence to an unknown Lebaea (probably in upper Macedonia), where they hired out as herdsmen to the local king. The eldest brother tended the horses, the next the cattle, and the youngest, Perdikkas, had the care of what was left, the sheep and the goats. The king had little money (as was often the case with kings in those days, according to Herodotus), so that his wife needs must cook for the herdsmen. She noticed that when she set bread to rise, the loaf intended for the youngest brother always grew twice as large as that for the others and she mentioned the fact to her husband. He decided that it was time to get rid of them. As they, about to leave, asked for what was due them, the king pointed to the circle of sunlight coming through the smoke-hole of the roof, and said, "There it is." Little Perdikkas whipped out his knife, marked the circle of the sunlight on the ground with it, gathered the sunlight up into the fold of his garment and thanked the king. Thereafter, the brothers departed. Upon reflection, the king did not like the implication – presumably, that Perdikkas had thus symbolically claimed all of the land which the sun shone on,

and he sent his men to pursue and slay the brothers. They, after crossing a river, had stopped to sacrifice to it;¹⁵ the river then rose so that the pursuing horsemen could not cross to capture them. The three fugitives finally reached the land of Macedonia, close by the gardens of Midas, son of Gordias, where the marvellous roses grew, and where the Silenus was captured "as it was said by the Macedonians, just under Mt. Bermaios; starting from there they overcame the rest of Macedonia." Then follows a list of the seven kings, Perdikkas I to Alexander I. Justinus, in using the subject matter of the oracle, gives the additional detail of their following a goat and settling where the goat indicated that they should, at a place called Edessa, the name of which was then changed to Aegae. Justinus makes Karanos (as in the oracle)¹⁶ the leader and the first king, Perdikkas I, the second. Perdikkas decreed that all of the royal family should be buried at Aegae to insure the retention of their power. Justinus takes pains to point out that Alexander III was the first to be buried elsewhere, leaving the moral to reveal itself. He continues with details of the reign of each of the kings, curiously reminiscent of the Roman kings. This tale cannot be considered evidence for the early history of Macedonia, and it occurs nowhere else. The chief value of the legend, aside from the fact that it was apparently believed by the judges at Olympia who allowed Alexander I to compete in the games,¹⁷ is the time involved, and the geography. If one may allow about three generations to a century, the Macedonian kings entered the country at the beginning of the eighth century, just about the time the Bacchiads of Corinth penetrated hither. The account of the route followed seems to be a reminiscence of the association of Macedonians with the territory north and west of Thessaly along the Pindus (cf. note 10), and to indicate that there

¹⁵ The whole tale is rich with the trappings of folklore; the sacrifice to rivers is common in various places, so that this touch may be an aetiological legend to explain a ritual in connection with a river in upper Macedonia. Cf. Herod. VII, 113.

¹⁶ Cf. *CAH* II, 528 for the interesting similarity between Coronus, son of Caenus, a Lapith king with whom the Dorians fought in northern Greece, and Caranus, father of Coenus.

¹⁷ Cf. note 12.

was a central strip of Greece, from the Peloponnese to the Macedonian highlands, associated with these people. Further, the legend confirms the statement of Thucydides (II, 99) that the highland interior had been the original Macedonia; that the lower country, the Macedonia of his time (see above, p. 3), a later acquisition.

The first really historical references to Macedonia and its kings appear in Herodotus' account of the westward advance of the Persians; even these are of such a secondary nature that they cause more confusion than they resolve. In a digression on the end of the tyranny in Athens (V, 94), he says that Amyntas, father of Alexander I, offered Anthemus to Hippias as a refuge about 509. If Anthemus, which is located in the area south of Therma, southeast of the Cissus mountains, and on the north edge of Chalcidice, was part of the kingdom of Macedonia at that time, Herodotus' own statements (VII, 123) that the Axios is the boundary between Mygdonia and Bottiaea¹⁸ and later (VII, 127), that the encampment of Xerxes extended from the city of Therma to the Lydias and Haliacmon rivers, which formed the boundary between Macedonia and Bottiaea, are manifestly in error. Thucydides (II, 99) confirms Herodotus' contention that the Macedonians held Anthemus, having driven out, among other tribes, the Bottiaeans to dwell on the borders of Chalcidice. In Book VIII, 127, Herodotus further states that the Bottiaeans, driven from the Thermaic Gulf by the Macedonians, possessed Olynthus in 479, when Artabazus besieged it. Since Thucydides puts no date to the Macedonian conquest of the Bottiaeans, and since the only real date obtainable from Herodotus is that of the presence of Bottiaeans in Olynthus in 479, the suggestion might be made that the expulsion of the Bottiaeans from the Thermaic Gulf did not take place until the confused period of the retreat of Xerxes after Salamis. Such a solution is impossible, however, because the evidence from the South Hill¹⁹ at Olynthus points to a pre-Persian occupation of the

¹⁸ How and Wells, *ad loc.*, suggest that the statement refers to an earlier period than the one under discussion.

¹⁹ Robinson, *Excavations at Olynthus*, IV, 2.

area for a considerable period of time by a homogeneous population. The question must be left for the time being, pending a consideration of other Herodotean references to Macedonia. As regards the actuality of Amyntas' offer to Hippias, we know nothing of the circumstances. Perhaps the Macedonian kings had been in communication with the Pisistratids ever since Pisistratus' first visit to the north in the middle of the sixth century.

Herodotus' casual, off-hand manner of referring to Macedonia before and during the Persian Wars never makes quite clear the relations between Macedonia and Persia. As a result, the same volume of the *Cambridge Ancient History*²⁰ contains such irreconcilable statements as that of Cary, who says that Megabazus did not succeed in capturing Macedonia (ca. 514–510), and that of Munro, who speaks of Mardonius' (492) recapture of Macedonia. Herodotus omits also to define the limits of Macedonia. Aside from the brief resumé of Thucydides (II, 99), we have only the statement of Strabo (VII, 7), that the territory around Lynkos, Pelagonia, Orestis, and Elimeia (i. e. upper Macedonia) was also called "free" Macedonia, to indicate the area ruled by the Macedonian kings when first they appeared on the world stage. The confusion engendered by Herodotus' lack of precision is reduced, if not quite completely removed, by the interpretation that he refers in one place to the kingdom of Macedonia at the time of the Persian Wars and in another to the geographical extent of Macedonia at the time at which he was writing. An examination of the passages involved indicates that much or most of later Macedonia was enslaved by the Persians, but that the original upland kingdom remained largely free of Persian influence.

The contact between the Persians and the Macedonians begins in a dramatic fashion. Shortly after the return of Darius from his Scythian expedition, Megabazus sent an embassy to Amyntas demanding

²⁰ *CAH* IV, 214 (Cary) "Megabazus failed to reduce Macedonia"; 230 (Munro) "reconquest of Thrace and Macedonia." Westlake, *JHS*, 56 (1936), 13 "Thrace and Macedonia, tributary vassals since 513 temporarily regained their independence (500) so that they had later to be reconquered by Mardonius (Herod. VII, 108)." Cf. also 14.

earth and water.²¹ At the feast which Amyntas provided, the Persians insulted their hosts by asking for the Court ladies who graced the banquet. Amyntas, secretly troubled by the request, which was virtually a command, temporized, but finally was ready to comply. The young crown prince, Alexander,²² hotly indignant, prevailed upon his father to let him take charge, without enlarging upon his plans. By a ruse he got the ladies out of the room for a time, long enough to put some of the royal guards into feminine attire. The "ladies" returned, each taking "her" place (no doubt coyly) beside a Persian. At a given signal, each lady disposed of her companion. All the Persian attendants were then slain. When the Great King, through Megabazus, sent out in search of his missing embassy a short time later,²³ Alexander (not Amyntas) avoided punishment by paying a sum of money and giving his sister Gygaea in marriage

²¹ Herodotus, V, 18–21. How long after 514 this took place is uncertain.

²² The word used by Herodotus is ὑπαρχος, which is translated "viceroy" by Godley; however, this is reading more into the text than is there. Herodotus does use the word to mean satrap in speaking of the organization of the Persian empire, but it is a word of general meaning for a second in command. H. Cary in Harpers Classical Series (1859) translates it "prince" which is its logical meaning here, I believe. This episode is of considerable importance for the relation of Macedonia to Persia. The envoy, in making his demand for the ladies, says to Amyntas, "since you are giving earth and water;" Geyer (*RE*, s. v. Makedonia, col. 702) concludes that Macedonia was a subject state of Persia. Grundy, *The Persian Wars*, 68, concedes a doubtful submission but "it is a doubtful question whether the submission was very real;" on 71 he states that "Megabazus' operation convinced Amyntas of the advisability of submitting to Persian suzerainty." The evidence does not warrant concluding that Macedonia became a dependency of Persia: the envoys to whom earth and water were given were dead when the search party came to Macedonia, and Alexander seems to have negotiated a compromise. It was a bold deed that the young heir to the throne perpetrated (How and Wells suggest that he may have been on the throne at this time, which is unlikely in view of Amyntas' offer to Hippias in 510 or 509) and one that marks him a man of swift decision and prompt action. These traits are likewise revealed in his later actions, not alone against Persia, but against any one who interfered with his plans. He is a worthy ancestor of the enterprising Philip and Alexander III.

²³ The search must have been made before Megabazus left Thrace to report to Darius at Sardis. Cf. Herodotus, V, 23.

to one of the Persians, Bubares.²⁴ Mention of this indemnity is the only specific reference to a monetary transaction between Persian and Macedonian although Herodotus does include Macedonia as tributary to Persia.²⁵

Nothing more is heard of the Macedonians until the Ionian Revolt had been quelled and Darius was planning to punish the Europeans for their aid to the rebels. According to the Kings' list,²⁶ Alexander was king at the time when Mardonius went over into Europe to prepare the way for the Persian punitive expedition, but he is not mentioned by Herodotus until much later, shortly before Thermopylae. In the abbreviated account in VI, 44-47, Herodotus recounts the actions of Mardonius – how he first subdued the Thasians; next, how with the land army, he made the Macedonians slaves, in addition to those he already had, while the navy was going from Thasos to Acanthus. When Mardonius was in Macedonia he was attacked, and very nearly defeated, by the Bryges of Thrace, whom he later subdued. In Mardonius' own description of these acts, when he is urging Xerxes to make the expedition (Herod. VII, 9), he makes use *twice* of the phrase μέχρι Μακεδονίης, as far as Macedonia. The passage in VI, 44-47, "he made the Macedonians slaves" is taken by Geyer²⁷ to presuppose a refusal to pay tribute, by Grundy²⁸ to mean contradictory things. On p. 145, he states that ca. 493 "Thrace and Macedonia had thrown off the Persian yoke," although by his own previous statement (p. 68), only the coast of Thrace as far as Mt. Pangaeus had been conquered; on p. 147 he again mentions the "reconquest" of Thrace and Macedonia; on p. 150, the words of Herodotus

²⁴ He is probably the son of Megabazus who was one of the overseers of the canal at Athos (Herod. VII, 22).

²⁵ III, 96 and VII, 108.

²⁶ Cf. Beloch, *Griechische Geschichte*, III, 2³, 49 ff.

²⁷ *RE*, s. v. Makedonia, col. 702. The Macedonians listed as among the Persian host (Herod., VII, 185) are probably those dwelling near the Strymon and near Acanthus whom Mardonius conquered, i.e., people who were included in the kingdom of Macedonia at the period when Herodotus was writing.

²⁸ Grundy, *The Persian Wars*, 145-150. Cf. 68.

in VI, 44, mean that with the army "he added the Macedonians to the number of those in servitude." Herodotus, himself, in VII, 108, adds to the confusion in describing Xerxes' march from Doriscus by saying that, as he had already pointed out, "all the land as far as (μέχρι) Thessaly had been enslaved and was tributary to the king, conquered by Megabazus and later by Mardonius." Three chapters before (105), Xerxes was reported as leading his army "through Thrace into Greece," by a route which lay close to the sea although the army marched in three divisions. From Doriscus he went to Acanthus, from there across the top of the Chalcidic peninsula to Therma, where he met the fleet and stayed some time, his encampment reaching (VII, 127) from Therma to the Lydias and Haliacmon rivers – the boundary between Macedonia and Bottiaea. After his review of the troops he proceeded over the "Macedonian mountain" to arrive at Perrhaibia (VII, 131). How and Wells, *ad loc.*,²⁹ conclude that this mountain is really the series of hills in the coastal section known earlier as Pieria, a conclusion which is indicated by the statement earlier in the same chapter that Xerxes passed some days in Pieria.

The description of Xerxes' retreat and of Mardonius' whereabouts during the following winter (Herodotus, VIII) includes similar vague references to Macedonia. In chapter 115, Xerxes left some of the sick in Siris of Paeonia and in Macedonia; he asked of the Paeonians the chariot and horses which he had left in their care. They replied that the upper Thracians, about the sources of the Strymon, had taken the chariot and driven off the horses. In 126, Mardonius was wintering "about Thessaly and Macedonia," while, in 131 and 133 only Thessaly is mentioned as his winter quarters. If the irreconcilable statements of Herodotus be taken as referring to two different concepts, a measure of clarity results; Mardonius' admission that he went only as far as Macedonia (VII, 9) should be construed as referring to the independent kingdom (Strabo's free Macedonia), while the majority of the other references are to the territory known to Herodotus' audience as Macedonia in their time, the ἡ παρὰ

²⁹ It is another instance of the anachronistic use of the term Macedonian.

θάλασσαν νῦν Μακεδονία of Thucydides, (II, 99). But even this interpretation leaves unsolved the question of the date of the expulsion of the Bottiaeans from territory under control of the Macedonian Kings (cf. *supra*, pp. 7-8).

Herodotus' reference to, and his failure to mention, Alexander at certain significant points confirm an interpretation along the lines suggested. In all the contacts between Persian and Macedonian following the arrival of Mardonius in Greece, Alexander does not appear. In VII, 22, Bubares, son of Megabazus, who is probably the brother-in-law of Alexander (cf. Herodotus, V, 22), is one of the two overseers of the construction of the canal across Athos. Perhaps the omission of reference to Alexander here is of minor importance, but why does not Xerxes during his stop at Therma (VII, 127) summon the ruler of the Macedonians before him? While Xerxes was still at Abydos (VII, 174), Alexander had warned the Greeks at Tempe of the size of the army and navy of the enemy and had advised them to depart. Since "the Macedonian seemed kindly disposed to them" they (the Greeks) took his advice, although Herodotus believes that the reason for their departure lay in their learning of the existence of the route into Thessaly from upper Macedonia through Perrhaibia to Gonnus, by which the army of Xerxes was marching.³⁰ It seems obvious that the Greeks learned of the two possible westward entrances to Thessaly from Alexander. While the most westerly route is close to the territory of Elimeia, according to Kiepert³¹ and others, the boundaries of the district are not precisely defined, and perhaps were fluid.

³⁰ Xerxes' army, one third of which "cleared the Macedonian mountain," is reported as going directly to Perrhaibia (Herod., VII, 131); the route is uncertain. The effect on the Greeks at Tempe would be the same whether the Persian army reached Gonnus by the Pass of Petra or by the more westerly route from the upper valley of the Haliacmon, west of the Cambunian mountains to the headwaters of the Europus, the Pass of Volustana. Even this route would be below "free" Macedonia. Cf. Westlake, *JHS* 56 (1936) 12-24, "The Medism of Thessaly," particularly pp. 16-20. He believes that Alexander really warned the Greeks against the Aleuadae and that Herodotus' informant was unaware of the exact warning.

³¹ Kiepert, *Atlas Antiquus*, V, Cc.

There is silence concerning Alexander's activities until after Thermopylae, when the section of the Persian army under Xerxes entered Boeotia on its way to Athens (VIII, 34). "The whole lot of the Boeotians Medized; some of the cities Macedonian men, sent by Alexander, διατεταγμένοι, saved. They saved them for this reason (or in this way), wishing to make clear to Xerxes that the Boeotians were kindly disposed toward the Medes." The participle, modifying the "Macedonian men" is ambiguous: it can mean "drawn up in battle array" or, as How and Wells, *ad. loc.*, "*dispositi per urbes*." The passage is generally taken as a guarantee by the Macedonians of Boeotian support for Xerxes. This is the simplest interpretation, but erroneous, as I think, because there is no evidence that Alexander himself Medized. It is possible that he somehow put up a front for disaffected Boeotian cities and disarmed Persian suspicion of them. The significance of the word "saved" is uncertain: did he save them from destruction by the Persians or did he, by a ruse, save them intact to join the defenders of Greece when they could? Since it appears to be a voluntary act on the part of Alexander, similar to his visit to the Greeks at Tempe and his appearance in the Greek camp at Plataea (Herod. IX, 44-45), and not a mission such as that entrusted to him officially by Mardonius (VIII, 136), it would seem more logical to construe it as an act friendly to the Greeks than to the Persians.

In the following year (479) when Mardonius was in sole command in Greece, after consulting various oracles in Greece, he sent Alexander to Athens (VIII, 136) to win over the Athenians to the Persian side, in accordance with the recommendation of the oracles received. In his appearance before the Athenians, Alexander made a very dispassionate speech, as the mouthpiece of Mardonius who was carrying out an order from Xerxes. After transmitting the message he urged the Athenians to accept the offer in view of the terms; his exhortation is prefaced by "I shall say nothing about my existing goodwill toward you (for you are not now learning of it for the first time)." Alexander here is a diplomat and while he must,

as Persian envoy, make a gesture toward forwarding the Persian cause, he is able to make the Athenians aware that he does not really advocate their joining the Persians. The Lacedaemonian embassy, calling Alexander a tyrant who joins with tyrants (VIII, 142), says to the Athenians all the things Alexander cannot say officially. The offer is refused by the Athenians, who surely must have been grateful to Alexander for enabling them to strengthen their position in the Greek world by their refusal. In their reply to the Spartans, they use it as a means of pressing the Lacedaemonians to send troops at once.

This choice of Alexander as envoy was made for two reasons (136). He was related to the Persians, for his sister had married Bubares³² and he was *proxenus* and *euergetes*. Herodotus does not say "of the Athenians;" presumably a word has dropped out here, for in chapter 143 the Athenians themselves call him *proxenus* and friend.³³ He had been allowed to set up a gold statue in Delphi beside that of the Greeks after Salamis (Herod. VIII, 121). The language in Herodotus, indeed, does not state that Alexander's statue was set up at the same time as was that of the Greeks; confirmation comes from Demosthenes, (XII, 21), where in speaking of Philip's claim to Amphipolis, he says that Philip's ancestor Alexander first possessed that place whence he dedicated a golden statue at Delphi as a tithe from the conquered Medes. It must have been set up after Salamis or after Plataea.

Alexander's final appearance on the pages of Herodotus is as dramatic as his first. On the eve of the battle of Plataea (IX, 44-45), he made his way secretly to the Greek lines³⁴ and when accosted by

³² Subsequently, a little Amyntas grew up in Caria, at Alabanda, but nothing more is known of him. Grundy, *The Persian Wars*, 436-7, thinks that Herodotus got the story of Alexander's mission from the Athenians rather than from Alexander, partly because of the "Attic flavor" of the story and partly because of the mistaken forecast of Alexander about the invincibility of the Persians.

³³ Demosthenes, XXIII, 200, although he confuses Alexander with Perdikkas, says that the Athenians granted him citizenship; in XIII, 24, it is *ateleia*, not citizenship, which is granted him.

³⁴ Herodotus says that he came on horseback when all the rest were sleeping, and only here calls him king (general also, but the regal title is the more important.)

the Athenian sentries he demanded to be taken before the generals, whom he designated by name.³⁵ He told the Greeks that Mardonius was planning to attack the following day without waiting for favorable omens and that if the attack were delayed it could not be for long because the supply problem was growing difficult for the Persians. He concluded by saying that if the war ended favorably for them (the Greeks), let them remember that it was necessary to save him, too, who for the sake of the Greeks, from sheer goodwill, had done such a bold thing. This episode has been variously construed. Woodhouse³⁶ believes the story to be "full of improbabilities and without any claim to retention;" How and Wells, *ad loc.*, think the visit is "open to suspicion;" Macan,³⁷ *ad loc.*, believes that probably there was some communication and collusion between the Athenians and Alexander;³⁸ Geyer³⁹ accepts the story, pointing out that there is no hint of linguistic difficulties. The account of this mission to the Greeks is hard to assess: among the various criticisms, the most important is that of Alexander's estimate of Persian supplies. It is in direct contradiction to Artabazus' report to Mardonius,⁴⁰ made shortly before. Alexander must have been with the Persian host, probably only after Mardonius was in sole command, and proved himself on the occasion of his embassy to Athens, as well as at Plataea, a most reluctant ally. In the account of the arrangement of troops (IX, 31), Macedonians and dwellers about Thessaly were among those facing the Athenians (to whom Alexander made his

³⁵ Plutarch, *Aristides*, 15, embroiders the story to flatter his hero. Alexander asks for Aristides. Woodhouse, *JHS* 18 (1898), 33–59, confuses the Herodotean account with that of Plutarch when one of the criticisms of the story is the absurdity of Alexander's revelation of his name to Aristides "who must have become familiar in Athens with the face, figure, and tones of the Macedonian king." It is hard to understand the statement, unless he is referring to Alexander's embassy to the Athenians earlier in the same year.

³⁶ See note 35.

³⁷ Macan, *Herodotus*, VII–IX.

³⁸ The Macedonians (but cf. also note 27) were stationed opposite the Athenians (Herod., IX, 31).

³⁹ Geyer, *Makedonien bis zur Thronbesteigung Philipps II*, 33.

⁴⁰ Herod. IX, 41, where he states that there are provisions and fodder in Thebes.

way), but these forces are not mentioned in the actual battle. Alexander's actions are aimed at aiding the Greeks, but his relations with the Persians are not clear.

When Xerxes went home, he gave the Macedonians the whole mountain land between Olympus and the Balkans, as far as the Strymon.⁴¹ Although the King's title to the land at this time certainly lent a precarious flavor to the gift, at least Alexander must have been in a position to be the recipient. The following year, during the retreat of Artabazus (Herod. IX, 89), his army was beset by Thracians. Demosthenes (XXIII, 200) states that Perdikkas, whom he elsewhere confuses with Alexander, destroyed the Persians and made final the defeat of the King. Since the story of the gift from Xerxes comes only from a later source and is not mentioned by Herodotus, the truth of it may be questioned. Consideration of only the evidence of Herodotus and Thucydides, with a measure of confirmation from Demosthenes and Strabo, makes it possible to arrive at a working hypothesis. Upper Macedonia, the original home land, remained untouched by the advance of the Persians. Alexander, who had possibly inherited a larger territory through the efforts of his predecessors, but a territory not thoroughly assimilated, retired to the uplands and avoided submission to the Persians.⁴² Since he relinquished the land in the path of the Persian army, some who were nominally Macedonians and others who later became Macedonians were enslaved by the Persians; as soon as the enemy retreated, Alexander reclaimed much of his former kingdom and added to it later. Such an hypothesis lends credence to his reference to his own boldness in coming to the Athenian camp at Plataea (he was in but not of the company of the Persians), and to his action in "saving" the Boeotian cities.

The date of his accession to the throne is variously given, from 498 to 492; it depends on the Kings' lists⁴³ which assign him a rule of 43 or 44

⁴¹ Justinus, VIII, 4, and Geyer, *RE*, col. 702.

⁴² Herodotus (VIII, 116) tells of a king of the Bisaltians and Crestonians (Thrax, or a Thracian) who refused enslavement to Xerxes and fled up-country to Mount Rhodope. I believe that Alexander did the same.

⁴³ Cf. note 26.

years. Since the first fixed point in fifth century Macedonian history is the accession of Archelaos in 414/13,⁴⁴ the forty years assigned to Perdikkas II bring the end of Alexander's reign in 454/3, and its beginning in 497/6. The words of Herodotus (V, 22) laying on Alexander the responsibility for the settlement with the Persians after his murder of the embassy, have led some to suggest that Alexander was king ca. 514.⁴⁵ This suggestion is quite unwarranted, if we believe the statement of Herodotus that Amyntas offered Anthemus to Hippias ca. 509. The coins throw some light on the question of the regnal years of Alexander; the matter is further discussed in chapters three and five.

⁴⁴ He is known to have died in the same year as Socrates. A fourteen-year reign by him must have begun in 414/13.

⁴⁵ Cf. How and Wells, at Herodotus, V, 21.

CHAPTER II

WEIGHT STANDARD

It has long been recognized that the coins of the Thraco-Macedonian area embody a complex problem because of the variety of their weights.¹ The Macedonian regal coinage epitomizes that complexity, for there is no apparent relation between the weights of the octadrachms and tetradrachms, and the smaller coins are fractions of one or the other large denomination. In other words, it appears that Alexander, and Perdikkas, struck silver coins on two standards simultaneously. These are the approximate norms:²

¹ Head, *HN*³, xli-xliv, 194-214, 253-254, assigns coins to the Babylonian or to the Phoenician standard. Babelon, *Traite*, I, 2, 1035-6, 1080, 1095-8 (hereafter *BT*) and Gaebler, *Die Antiken Münzen Nord-Griechenlands*, (hereafter *AMNG*) III, 2, *passim*, substantially agree with Head. In a series of articles in the *Sitz. Ber. Klass. Wiss.*, Gaebler condemns as forgeries a number of the coins of Alexander partly because he fails to understand their weight. P. Gardner, *History of Ancient Coinage*, Chap. X, 186-200, distinguishes a Thasian and the Abderitan standard. Svoronos, *JIAN*, 1919, 1-265, "L'Hellenisme primitif de la Macédoine" (tableau métrologique, at the end), calls the standard Paeonian, although he does not clearly define the relation of the various denominations to one another and has no historical source for the weights he gives as norms. Seltman, *Greek Coins*, 65ff., also uses the term Paeonian but his explanation of it is incorrect. Viedebant, *Antike Gewichtsnormen und Münzfüsse*, 70-72, (hereafter *AGM*) is substantially correct in his derivation of the stater used in the Thraco-Macedonian area from the Babylonian mina and his recognition that the large "Phoenician octadrachms" are really triple staters, but (a) he does not account for any of the other weights, and (b) he creates a mina of ninety staters to adapt the stater to the Attic system, even though he is forced to leave open the question of the reason for a mina of ninety staters. Giesecke, *Antikes Geldwesen*, 39-40, (hereafter *AG*) accepts a division of the Babylonian mina as a source, but misnames the stater; recently, in *Hamb. Beil. z. Num.*, III (1949), 1-15, he changes the name of the stater, but is still wrong.

² Since all the weights recorded and discussed in this study are in grams, it has not seemed necessary to indicate that fact after each weight.

1. octodrachms - 28+ to 29+
2. tetradrachms - 13+ or -
3. octobols - 4+
4. tetrobols - 2.40+
5. triobols - 2.10+
6. small issues - 1.80+ or -
7. fractions - down to .54

Nos. 1, 4, and 6 have a common denominator and Nos. 2, 3, and 5 are similarly related. It is noteworthy that all these weights are found, along with still others not used by the Macedonian kings, in the Thraco-Macedonian tribal coinage. Head (see note 1) and others have assigned those sixth century tribal coins weighing ca. 9+ to the "Babylonian" standard and those of 28+ to 29+ to the Phoenician standard, both of which assignments are plausible, but no one has satisfactorily explained the tetradrachms of 13+ or -. Coins of this weight were struck over a long period of time for they were used from the sixth to the fourth century, when they composed the bulk of the coinage of Damastion.³

Because the weights used by Alexander for his coins had been used in the sixth century tribal issues, it is logical to look to them for an explanation of the standard. The data collected by Svoronos⁴ are valuable for this search, since they are remarkably complete. Giesecke⁵ has recently used this material in his study of the weight-standards of the Thraco-Macedonian region; and while he saw the original source of the weights, the "Babylonian" mina, he has misunderstood the use to which it was put. Before Giesecke, Head (see note 1) had the key to the solution of the problem of these weights, as had Haeberlin,⁶ but neither had studied all the pertinent material. The various weights of the coins assembled by Svoronos

³ Cf. J. M. F. May, *The Coinage of Damastion*, pp. 12-17.

⁴ This article, already cited in note 1, is of greater value for the data than for the conclusions Svoronos reached from them. References to it in the future will be abbreviated to *HPM*.

⁵ Cf. note 1.

⁶ Haeberlin, *ZfN*, 27 (1909) 1-115, "Metrologische Grundlagen."

must be based upon some common factor, because of the fact that the same type is used on coins of seemingly unrelated weights⁷ issued by one agent. That common factor is the fiftieth part of the light Babylonian mina of 491 +.

By one of the fortunate chances of survival, there have been preserved stone and bronze weights giving the value of the light and heavy Babylonian mina.⁸ The fact that individual specimens date from 2000 B. C. to 650 B. C. is clear evidence of the fidelity with which the standards were maintained. Both the heavy (505) and the light (491) mina go back to the time of Dungi, of the dynasty of Ur, ca. 2456–2398.⁹ As specimens of both standards are inscribed “of the King” (in cuneiform) and “of the country” (in Aramaic), the co-existence of the two standards for all uses is fact, not fancy. The purpose of the two slightly different standards is as yet unknown; however, it is worth remarking that $505 = 491 + 1/36$, which calculation implies a tax on the light mina. Lehman-Haupt and Haeberlin¹⁰ were in possession of these facts and from them went on to fanciful suppositions. They hypothecated additional taxes of various proportions, proposed precious metal minas which were 50/60 of the weight minas, and finally ended with *four* minas: a common and a royal gold mina and a common and royal silver mina. By taxing these minas they were able to account for all Asiatic Greek weight-standards, as well as that of the coins under consideration. Lehman-Haupt identified this latter standard as the fiftieth part of the “Light Babylonian Weight-Mina of the Royal Norm heightened by $1/24$.” Viedebant¹¹ has pointed out the folly of such theorizing and has maintained that the weights, as preserved, need no “adjusting.” In my estimation, however, he conjectures too low a weight for both minas (489.5 and ca. 502); he is therefore forced into questionable

⁷ Cf. Chapter III.

⁸ For a summary of these weights, see *HN*², xxxiv–xxxvii.

⁹ *CAH*, I, 658.

¹⁰ Haeberlin, *op. cit.* (n. 6); Lehmann-Haupt, *RE* Suppl. III, cols. 604 ff.

¹¹ *AGM* 17–28.

calculations, the discussion of which would go too far afield from the purpose of this study. If one takes as the norms for the two minas those usually given (491 and 504 +, or preferably 505), one can extract from them the norms for the staters of all Greek weight-standards.

By the Oriental system of division, one finds the norms used by Croesus, by the Persians and the Euboeans, and by some Ionian coastal cities.

	491	505
1/30	16.36 (Ionian cities, Ainos, Cyzicene electrum)	16.83
1/45	10.91 (Croesus, gold and silver)	11.22
1/60	8.18 (Croesus, gold)	8.42 (Persians, gold, and Euboeans, silver)
1/90	5.45 (siglos?)	5.61 (siglos? = Persians, silver)
	Macedonia under Archelaos	

From these figures several conclusions may be drawn: (1) The light mina was used for coins earlier than the heavy mina. (2) The derivation of the Euboic stater from the heavy mina may be due to some correlation between it and the Homeric talent, which is taken by some to be the source of the Euboic stater.¹² (3) Herodotus (III, 95) was entirely correct in stating that Persian gold was weighed on the Euboic standard; he was speaking in the terms of the familiar rather than the historic. (4) There is no substantiation for the claim that one mina was a gold standard and the other a silver standard, at least outside of Persia. If the siglos weighed 5.45, it could be conjectured that the Persians used the light mina for silver and the heavy mina for gold, but the exchange rate¹³ of twenty sigloi for one daric indicates a value for the siglos of ca. 5.60; therefore, even in Persia there were not separate silver and gold standards.

¹² Cf. Gardner, *History of Ancient Coinage*, 79.

¹³ Xenophon, *Anab.* I, 7, 18.

The use of various decimal systems of division produces all other Greek weight standards, except the Attic (and, possibly, the Aeginetan), which comes from a peculiar source by my reckoning.¹⁴ I do not pretend to be able to give reasons for these divisors, and they may actually have nothing to do with the origin of the weights they reveal.

491	505
1/35 - 14.04 (early Lydian electrum; Ionian Revolt coinage)	14.43 (Phoenician)
1/40 - 12.25	12.62 (Aeginetan ?)
1/50 - 9.82 (Thraco-Mac. stater)	10.10
1/70 7.02 (electrum from Artemision ?) (electrum from Thraco-Mac. ?)	7.26 (Phoenician)
1/80 6.12 (Aeginetan ?)	6.31 (Aeginetan ?)
1/100 4.91	5.05 (Chian-Rhodian ?)

¹⁴ So far as I know, there is no generally accepted explanation of the source of the Attic standard, usually reckoned as 8.72. It has been attributed to the Egyptian Delta where a *kedet* of 8.74-9.07 was in use (Gardner, *Hist.* 157) and it has been associated with certain electrum coins usually attributed to Samos (*HN*³, 602) and dated to the period of Polycrates, 532-522. Since the Athenian coins on the standard which is undefined are the product of Pisistratus (561-527) Samos cannot be a source for them. The Egyptian *kedet* is too high in weight. In the course of this study, I have come upon two possible sources for the Pisistratid weight, either of which may be correct and both of which may be wrong. Since, however, the field is still open, I submit my suggestions:

1. Before the time of Croesus (561-546), there had been struck Lydian electrum coins weighing 10.19, 1/45 of the light Babylonian mina (*HN*³, 644). Pisistratus must have been aware of the Oriental sexagesimal division of the mina, which had long been in use as a weight; from this Lydian electrum (some of the earliest money, probably to be dated about the end of the seventh or the beginning of the sixth century) he may have assumed a mina of 654. 1/75 of this figure is 8.74.

2. If Pisistratus owned mines in the north, he must have been acquainted with the weight system in use there. The octobol in Column 2 of the chart of Thraco-Macedonian weights (4.36) is almost the exact equivalent of the Attic drachma. Gardner, *Hist. of Ancient Coinage*, 157, has already suggested that Pisistratus got his standard from the north, but he referred it to the stater of that area (9.82), the weight of which he thought was ca. 9.07. As the chart shows, the stater is too heavy to have been the model for the heavier Attic tetradrachm of Pisistratus; the octobol of 4.36 is the more likely source.

The suggested Aeginetan weights may not be justifiable; that from the light mina is rather low and the other rather high. The 1/100 division of the heavy mina is rather light for a third of the Chian-Rhodian stater, which actually may be a pentadrachm on the Aeginetan system.¹⁵

The fiftieth division of the lighter mina, 9.82, is the Thraco-Macedonian stater and the source for all the variety of weights in that area. The system is a complex one, extremely ingenious in its use of both the Oriental and the Greek denominations. It should be called Thraco-Macedonian, since it was the creation of the tribes of the region, although, in view of the fact that it was used by the Macedonian kings in the fifth century after tribal issues had ceased, it might justifiably be called Macedonian.¹⁶ In the following chart the weights in the *first column* are those arrived at by the Oriental system of multiplication and division by thirds and sixths. The *second* and *third columns* contain weights formed by applying the Greek drachma and obol system of division. The weights marked * are those used by Alexander, those with ** by Perdikkas as well, and those with + by the Chalcidic League.¹⁷

491, mina	1	2	3
39.28	Quadruple stater	Duodecadrachm	
32.70		Decadrachm	
29.46*	Triple stater		Octadrachm
19.64	Double stater		
14.73 +			Tetradrachm

¹⁵ Cf. Xenophon, *Hel.* I, 6, 12 and Gardner, *Hist. of Ancient Coinage*, 251-252.

¹⁶ Cf. note 1. The name "Paeonian" is misleading because at the time that this standard began to be used Paeonia was not, so far as we know, a unit. Pangaeon might be a better term, in view of the major source of metal supply, but Thraco-Macedonian at least has a virtue of exactness of the original place of use.

¹⁷ Robinson-Clement, *Olynthus Excavations*, IX, 209-210, assume that the League standard was Phoenician although they notice the other names given, but the circumstances of the League's adoption of the Thraco-Macedonian standard are discussed in Chapter VIII, below.

49I, mina	1	2	3
13.09*		Tetradrachm	
9.82	Stater		
4.91	Hemistater		Octobol
4.36*		Octobol	
3.68			Drachma
3.27	Trite	Drachma	
2.45** +			Tetrobol
2.18**		Tetrobol	
1.83			Triobol
1.64	Hecte	Triobol	
1.22			Diobol
1.09		Diobol	
.82	Hemihecton		
.61			Obol
.545		Obol	

Of this elaborate and bountiful assortment of weights, the coins collected by Svoronos (see note 4) show the use of all but the one most closely resembling the so-called Phoenician tetradrachms (14.73),¹⁸ although it is represented at Abdera.¹⁹ The evidence for the hemistater is uncertain. There are a few coins of that weight given by Svoronos, but their attribution to the area is uncertain. The octobol of 4.36 (Column 2), a close approximation of the Attic drachma, seems not to have appeared until comparatively late in the series of tribal issues and may plausibly be associated with Pisistratus' stay in the north (556–546, but see note 14). A chronological study of the tribal coinage should do much to clarify the growth of

¹⁸ The term "Phoenician" is a misnomer for any standard because the Phoenicians did not strike coins until long after a standard of ca. 14.50 had first been used. A better name would be Milesian.

¹⁹ Cf. Münzer, F. and Strack, M. L., *Die Antiken Münzen Nord-Griechenlands* II, *Die Antiken Münzen von Thrakien*, I, 46–50, dated 512–478. The octadrachms, 43–46, are dated c. 545–512. P. 43, Strack describes the standard as "Phönizische Währung in der Erhöhung um 1/36."

the system. The absence of historical records for this region has undoubtedly been a large factor in the neglect under which it has been allowed to languish. The legendary association of the north with both Asia Minor and Greece proper is emphasized by the mixture of Oriental and Greek divisions in these weights.

The coinage of Abdera has quite generally been considered as on the Phoenician standard (see note 19), with various theories to account for fluctuations in weight. No one has yet, however, devised a reason why the people of Teos should have turned to the use of this standard when they settled in the north.²⁰ It is clear that Abdera merely began coining on the standard already in use, taking the triple stater (Column 1) as an octadrachm (Column 3). The Phoenician standard was a little lighter (14. 43, for the tetradrachm), and it is possible that the fluctuations in the weights of Abderitan coins can be traced to that difference. Roebuck²¹ recently, in drawing some very interesting conclusions about trade from the contents of Egyptian coin hoards, makes certain misleading statements about Chios and her relations with the Thraco-Macedonian region. He states (p. 240) that "The symbols on its (Chios') earliest coins, found, significantly enough, in Egypt, are similar to those of the early Thraco-Macedonian group." In a footnote (53) he lists them as sphinx, rosette, cock's head and lotus. This sphinx occurs only on the coins of Abdera. I am not aware of the use of the cock's head as a symbol in the north, although the rosette is common there and elsewhere. If by the "lotus" he means the stylized Pangaeian rose, it is the one symbol which was assuredly used in the north. On the same page, his next sentence reads: "Further, when Abdera began to coin after its recolonization by Teos, it did so on a standard related to the Chian, which would indicate one area of Chian influence in this region." It is hard to understand the basis for this statement. The Chian standard of ca. 15.52 has no obvious relation to that of Abdera.

²⁰ The foundation from Clazomenae is dated in the seventh century before the beginning of Clazomenian coinage. The Teians used the Aeginetan standard.

²¹ *CP* 45 (1950), 236-247, "The Grain Trade between Greece and Egypt."

The fluctuation in weight of the tribal issues seems to have little to do with chronology, if that of the coins of Macedonia be any criterion. In the lists of weights of the coins of Alexander and Perdikkas at the end of this chapter, it may be seen how varied are the weights within a denomination and how little this variation has to do with chronology. It would be idle conjecture to devise reasons for the fluctuation; often two coins from the same die or dies will vary widely in weight. Since it is noticeable in all denominations and in coins of all types (i. e., in the tribal issues) it perhaps may be attributed to carelessness resulting from widespread acceptance of the standard. The fact that many of the early coins, and even those of Alexander, found in hoards in remote lands,²² are slashed or otherwise disfigured can be taken to mean that these coins, accepted "at home" at face value, were only accepted abroad after being weighed and tested for purity. In view of the certainty of the weights for the denominations listed in the chart, it has not been felt necessary to construct frequency tables. Indeed, the meticulous consideration of extant weights in any series is superogatory, since ancient methods of minting and the whole ancient conception of the purpose of coinage differ so greatly from those of the present.

Without a detailed study of all the tribal issues and the directions of northern trade, it is impossible to decide the chronological order of the development. A number of the denominations were comparatively short-lived, particularly the large ones; probably they were too large for convenient use. The triple stater, or octadrachm, was struck by Alexander and by Abdera until the middle of the fifth cen-

²² Many have been found in Egypt and Mesopotamia; the most remote find appears to be that in Afghanistan published by Daniel Schlumberger in *Mémoires de la Délégation Archéologique Française en Afghanistan*, XIV, "Argent grec dans l'empire achéménide." This information was kindly supplied to me by the author, M. Daniel Schlumberger, while the book was in press. I am unable to give the page numbers because I have not seen the volume. The hoard is also discussed by E. S. G. Robinson in *Iraq*, 12 (1950) 44-51, where he makes the following statement: "We may conclude that coined silver, treated as bullion, was a staple export of Greece to the Persian empire, into which it penetrated early and deep, from the time of Darius I onwards."

ture. The tetradrachm of 14.73 used by Abdera, was adopted by the Chalcidic League before the end of the fifth century and was used for the first time in Macedonia by Philip II. The tetradrachm of 13.09, used by Alexander until the middle of the fifth century, was used in the fourth century by the kings of Paeonia and by Damastion.²³

This tetradrachm of 13.09, created by multiplying rather than by dividing or reclassifying,²⁴ as was the case with the triple stater, has as its point of contact with the original system (Column 1 on the chart) the trite (3.27) of the original stater. The trite was multiplied like a drachma to produce the tetradrachm of 13.09. The earliest such coins have a Pegasus obverse type (often attributed to Therma).²⁵ They have the very earliest form of irregular incuse on the reverse and must have been struck early in the series of the tribal issues, well before the middle of the sixth century. As a coin of this weight is not readily exchangeable with the other denominations of the Thraco-Macedonian coins, except with its multiple the quadruple stater, its creation would seem to be due to foreign needs.

A search for the possible reason for the evaluation of this denomination led into the baffling realm of electrum. Fraught with peril is a journey thereto. Instead of one Scylla and a single Charybdis, the traveler is beset by monsters more fearsome than Greek or Oriental ever imagined. These monsters are (1) the relative value of gold and silver, at a given time or generally; (2) the consequent relative value of electrum and the other metals; (3) the very nature of electrum, i. e., whether it was a natural or an artificial alloy, or both at different times; (4) the ability of the ancients to determine the proportion of each metal in a given coin; (5) their use of that ability.²⁶ Although the conclusions reached in the following paragraphs are largely based

²³ Cf. note 3.

²⁴ The denomination is, of course, technically a division of the quadruple stater, but the existence of the decadrachm (although of rather rare occurrence) points to multiplication of the trite, rather than division of the quadruple stater.

²⁵ Cf. Svoronos, *HPM*, Pl. XIV, 4, 6, 7.

²⁶ Cf. Head, *HN*³, xxxix–xli, and under Lydia, 643–646, Ionia, 564–567, as well as under various cities; Gardner, *Hist of Ancient Coinage*, 31–36, 67–82, 91–108, and *passim*.

on probabilities, rather than on actualities, because of the uncertainty as to the true nature of any electrum coinage, it seems not improper to set forth the results of the inquiry into the reasons for the creation of the tetradrachm of 13.09.²⁷

Electrum as a moneyer's metal, as contrasted with its use for jewelry, should be examined (a) for its weight standard, (b) for its alloy, and (c) for the relation of these two factors to current values of gold and silver. The generally accepted relation of the latter is 13.3-1, a rather awkward figure for the moneyer.²⁸ It has been suggested that electrum stood in relation to silver as 10-1, actually or as a convenience,²⁹ i. e., any electrum coin became arbitrarily to be worth ten times its weight in silver, regardless of the alloy. This is a workable hypothesis, for an equation can always be worked out between electrum and *some* silver issue on this basis. Since we know so little of the direction of trade in antiquity, it is impossible to prove that any such equation was in use in trade – or, equally, that it was *not* in use.

Such reckoning ignored the proportion of gold and silver in any electrum piece, although it is hard to understand how, in the fiercely competitive struggle between coins of different standards, the ancients would be willing to accept at a nominal value a coin, the metal content of which was unknown and unknowable to them. While Pliny³⁰ states that electrum must be one-fifth silver and four-fifths gold, and that it is a naturally occurring alloy, Hammer³¹ has shown that the alloy as found in different parts of the world is very irregular. He concludes that there was available in antiquity electrum of the proportions given by Pliny, but none of the coins which he analyzes has so large a gold content, and in his entire lists the proportions vary greatly. When of the two electrum coins of the same weight,

²⁷ And also, incidentally, of the decadrachm of 32.70, although there do not seem to have been many of this denomination.

²⁸ Cf. the works cited in note 26, particularly Gardner.

²⁹ Cf. Head, *HN*³, 643 and Gardner, *Hist.*, 35.

³⁰ Pliny, *NH*, XXXIII, 80.

³¹ *ZfN* (1908) 1-144, "Der Feingehalt der griechischen und römischen Münzen."

one contains one-third gold and the other two-thirds, how can one say that these coins both equal ten silver pieces of the same weight as the electrum? Theophrastus' description of the touchstone (which he calls the Lydian stone), by which it was possible to "recognize the purity of the gold and silver as well as the amount of copper and how much was mixed in a stater,"³² indicates that it was used for testing electrum coins. The well-known monetary agreement between Phocaea and Mytilene³³ can only be interpreted as referring to an artificial alloy, although, unfortunately, the decree does not name the proportions.

Specific gravity tests applied to electrum coins showed clearly the variant proportions of gold and silver in different coins, often of the same weight. Hammer, in the article cited in note 31, went further than specific gravity tests; he subjected as many coins as possible to chemical analysis, from which it became evident that varying amounts of copper (cf. Theophrastus), and even of other metals, were introduced into the alloy to secure greater hardness. The addition of these metals, hitherto unsuspected, affects adversely the accuracy of the specific gravity figure. Such a test could not be applied to every electrum coin for obvious reasons, but from the number of coins available to him, Hammer has been able to work out a formula to express the relation between the specific gravity finding and the result of chemical analysis. This perhaps is not minutely accurate in every case, but it serves to bring a certain uniformity into the relative contents of the metals in any electrum coin of which the specific gravity is known. Thus it is possible to reach rather sound conclusions as to the standard of electrum coins and their worth. Viedebantt³⁴ and Gardner³⁵ have both taken cognizance of the specific gravity of electrum coins in their discussions of them; Giesecke³⁶ has modified Hammer's figures in his discussion of the place of electrum

³² *De Lapidibus*, 46, followed by Pliny, *NH*, XXXIII, 43.

³³ Michel, *Recueil des inscriptions grecques*³, 4, no. 8.

³⁴ Viedebantt, *Antike Gewichtsnormen und Münzfüsse*, 40, 44 ff., 159–60.

³⁵ Gardner, *Hist. of Ancient Coinage*, 34–35. ³⁶ Giesecke, *Antikes Geldwesen*, 80–83.

in ancient economics. At present, there are too few records of the specific gravity of electrum coins to warrant drawing any sweeping conclusions about the use of electrum. In what follows, I have made use of all the data I could find, but they are admittedly incomplete.

In the *BMC Ionia*, there are listed a number of electrum staters and fractions of varying types and gold content, whose norm appears to be close to 7.02.³⁷ Their crudity marks them as among the earliest coins struck, but the variety of their types makes it impossible to consider them as a group. Their specific gravity also varies greatly. Some of them: pp. 2 and 3, nos. 2, 4, 5, 6, together with some from Berlin (Hammer, *ZfN*, 1908, pp. 25–26, nos. 86–89, also cited by Giesecke, *AG*, p. 24, nos. 5–8) and two from Paris (*BT*, I, 2, no. 1; Pl. I, 1, and *Rev. Num.*, 1930, p. 153, no. 2, Pl. V, 3) are characterized by a comparatively high gold content, a reverse with a Thraco-Macedonian style of incuse square, generally quartered (*BMC*, no. 5 has a simple type similar to that of the Gorgoneion stater in the second group of electrum) a spheroid shape, and an obscure obverse type which Svoronos³⁸ has correctly identified as an ingot, sometimes plain and sometimes variously decorated.³⁹ Some also have a floral pattern similar to that on some of the tribal issues. (PLATE I, a–f, h, i.) The other coins on the same pages of the *BMC* are nearly lentoid in shape, the obverse type is different although equally obscure, and the gold content is very low. Most of the former coins were said to have been assembled in Saloniki by Kaftanzoglu and they have all been attributed to the Thraco-Macedonian area by Svoronos, chiefly for sentimental reasons.⁴⁰ I believe that those with the high gold content are Thraco-Macedonian and that they are to be brought into a close relationship to the earliest of the tetradrachms. Their gold

³⁷ For the latest discussion of the Artemision Base coins, see E. S. G. Robinson, "The Coins from the Ephesian Artemision Reconsidered," *JHS* 71 (1951) 156–167.

³⁸ Svoronos, *HPM*, 192.

³⁹ This type anticipates that of the later drachms (3.26) of Damastion; May, *Coinage of Damastion*, 37 and Pl. XII.

⁴⁰ Svoronos, *HPM*, 155. I have been unable to learn whether the Kaftanzoglu Collection is still in Athens, where it was once reported to be.

content is two-thirds of the total weight; that of the others is about one-third. These coins are probably slightly later than those from the Artemision base,⁴¹ but they should be dated early in the sixth century. They show some stylistic and technical development. PLATE I, a, b, e and h, are earlier than the others, to judge from the crude ingot on the obverse and the irregularity of the incuse. PLATE I, c, d, f, and i, have more skillfully cut obverses (f and i are quite elaborate) and their reverses have a more definite form. There are so few of these coins and their weights so irregular that it is hard to determine their standard.⁴² It may be $\frac{1}{70}$ of either mina; as shown below, the difference is so slight that the equation is not seriously affected. It is useless to try to find the reason why $\frac{1}{70}$ should be the division chosen for the early electrum, Lydian, Ionian and Thraco-Macedonian. It was not until Croesus struck his first gold coins that the division of $\frac{1}{60}$ was used. The large proportion of gold in the group here considered Thraco-Macedonian gave it a stability which the eastern electrum did not have,⁴³ for none, as far as I know, has suffered any disfigurement or has been countermarked to guarantee it. The tribes of northern Greece, with their fabulously wealthy gold and silver mines, presumably began coining in electrum, having taken their standard from those moneyers of Asia Minor who struck the earliest coins. When the Thraco-Macedonians began striking in silver, they used a different fraction ($\frac{1}{50}$) of the mina of 491 for their stater, the trite of which, multiplied into the tetradrachms of 13.09 served to make exchangeable electrum and silver. Because the mina of 491 was the one used for silver, it may be that this early electrum was $\frac{1}{70}$ of that same mina. However, I give the equation for both standards.

⁴¹ Cf. note 37.

⁴² The weights of the early Lydian electrum range from 6.85 to 7.12.

⁴³ Cf. Head, *HN*², 646: "The electrum currency, owing perhaps to its uncertain intrinsic value, appears to have fallen somewhat into discredit, if we may judge from the multiplication of private merchants' or bankers' countermarks on many of the specimens assigned to Gyges or his successors; and it would seem that Croesus soon found it necessary, not only to introduce a new and distinctive type, but to reorganize the coinage of his empire on an entirely new basis..."

	491		505
Weight of electrum	7.02		7.27
Gold 4.68, at 13.3-1	62.24	Gold 4.84, at 13.3-1	64.37
Silver	<u>2.34</u>	Silver	<u>2.42</u>
Total:	64.78	Total:	66.79
Tetradrachm, 13.09 × 5	65.45	Tetradrachm, 13.09 × 5	65.45
Electrum, 7.02 × 9	63.18	Electrum, 7.27 × 9	65.43
Decadrachm, 32.70 × 2	65.40		65.40

It will be observed that the accepted rate of 13.3-1 as the relative value of gold and silver was valid in Europe in the early sixth century, but that the value of electrum was 9-1 rather than the conventional 10-1.⁴⁴ It will also be observed that the equation is more precise if the weight of the electrum piece be taken as 7.27 instead of 7.02, which would indicate that the mina of 505 was used for the first electrum, although the lighter mina for 491 was used for silver. On the other hand, a consideration of the Lydian electrum and the first issue of Croesean gold leads one to the conclusion that the lighter standard is really the correct one:

Electrum	7.02
Gold ($\frac{1}{8}$) 2.34 at 13.3-1	31.12
Silver ($\frac{2}{8}$)	<u>4.68</u>
Total: (in silver)	35.80
Croesean gold (8.18) in silver (13.3-1)	108.80
Electrum, in silver × 3	107.40
Electrum, 7.02 × 15.5	108.81

It can thus be suggested that Croesus struck gold at $\frac{1}{80}$ of the light mina to exchange with electrum at $\frac{1}{70}$ of the same mina and that the debasement of the electrum led to its abandonment and the substitution of the Croesean silver of 10.90, ten of which would

⁴⁴ Giesecke, throughout his study *Antikes Geldwesen*, assumes, but not convincingly, the relative value of 6-1 for electrum and silver.

equal a Croesean gold stater. The Thraco-Macedonian electrum would not be exchangeable with the Croesean gold (it probably preceded it) nor with the Lydian electrum. Since we know nothing of trade directions, and since most of the coins here considered Thraco-Macedonian were found near Saloniki, they may only have been used locally for large transactions. The matter cannot be studied here.

A second group of electrum coins to be associated with this area⁴⁵ consists of three coins (London, *BMC Ionia*, p. 13, no. 58; Berlin, Hammer *ZfN*, 1908, p. 24, no. 55, also cited by Giesecke; Paris, *BT I*, 2, no. 200, Pl. V, 20). There is no group of Asia Minor coins to associate with these as there was in the previous instance, and the issue is a peculiar one. The obverse type is the Gorgoneion, used on silver by Neapolis-Daton in a style which appears to be slightly later than that of the electrum. The reverse type is four pellets, one in each corner of the shallow incuse, connected diagonally with two lines at the intersection of which there is a fifth pellet. The type seems to have been influenced by the reverse type of PLATE I, i, one of the later elements in the first electrum group. Their norm is 8.18, $\frac{1}{60}$ of the mina of 491, the weight that Croesus introduced ca. 561 when he struck his first gold. The proportions of gold and silver are the opposite of that in the earlier electrum – $\frac{1}{3}$ gold and $\frac{2}{3}$ silver. These electrum coins confirm the hypothesis offered earlier, that Pisistratus developed the Attic standard from the northern one, for they are exchangeable with Attic tetradrachms.

Electrum		8.18 ($\frac{1}{60}$ of mina of 491)
Gold, 2.73, at 13.3 – 1	36.30	($\frac{1}{3}$ of stater)
Silver	5.45	($\frac{2}{3}$ of stater)
Total:	41.75	
Attic tetradrachm,	$17.44 \times 3 = 42.32$	
Tetradrachm,	$13.09 \times 3 = 39.27$	
Electrum,	$8.18 \times 5 = 40.90$	

⁴⁵ Both Svoronos, *HPM*, 204–206, and Giesecke, *AG*, 57 assign this group to the Thraco-Macedonian region.

Here the equation is not so precise as in the other group; it is very close for the exchange of the Attic tetradrachm with the electrum, but less satisfactory for the tetradrachm of 13.09. I should suggest that this rather short-lived issue of electrum was a first attempt to exchange Attic and tribal issues, but that it was soon abandoned because of the far more exact equation of five tetradrachms of 13.09 (65.45) with four tetradrachms of 17.44 (65.76). It is of some importance, however, to note that the relative value of electrum and silver, 5-1, as used in the above equation can be confirmed by the reverse type of the electrum with its five connected pellets.

If the weights and affiliations of these two groups of electrum issues are carefully considered, it is possible to arrive at rather stable chronology. The first issue, begun shortly after the beginning of the sixth century, on the unit of the earliest electrum, that dated by the Artemision base find to the end of the seventh or beginning of the sixth century, would be contemporary with the earliest coinage in Greece proper; it lasted until Croesus, sometime after 561, introduced gold at 8.18. Shortly after 556, Pisistratus came north, adopted the unit of 4.36 (the octobol of the tetradrachm of 13.09) as his drachma, whereupon the tribes about Neapolis, at least,⁴⁶ issued an electrum unit for exchange. This second group of electrum then is to be dated about the middle of the sixth century and probably did not survive the departure of Pisistratus in 546. After this Neapolis struck silver, with the same obverse type, of the weight of the Thracio-Macedonian staters, 9.82. The fortunes of the heavier Attic currency assured the continued value of the tetradrachm of 13.09, even though no further electrum was coined in that area.

There is a single electrum coin, much later in style, which is to be considered a Thracio-Macedonian issue.⁴⁷ It was found at Lysimachia

⁴⁶ Neapolis is located slightly east of the Pangaeon mountain district, a location which makes the assignment of these coins to that city the more probable, for it would be in communication and, possibly, in trading relations with Pisistratus and his group near Mt. Pangaeum.

⁴⁷ Many towns and tribes used centaur, or satyr, and nymph types, among them the Orrhesians, Zaeleians, as well as others not yet identifiable.

in Thrace and its type is distinctly Thracian (PLATE I, g). Its style, particularly that of the reverse, points to a close connection with that electrum coinage which Gardner has so convincingly assigned to 500–494, the Ionian Revolt coinage.⁴⁸ The Ionian Revolt coinage is characterized by a variety of obverse types, probably representative of the various cities which joined in the issue, an incuse reverse, which is very deeply struck, quartered linearly, as is the Thracian piece. The weight standard is 14.04, $\frac{1}{35}$ of the mina of 491, and the gold content is one-third of the total. These coins revive the standard of the earliest Ionian electrum, but are double staters. They were designed to be exchangeable with Attic tetradrachms,⁴⁹ since Athens, already a great mercantile city, was looked upon by the Ionians as the mother-city; the coins should cement the bonds and make cooperation easy.

Electrum	14.04
Gold ($\frac{1}{3}$) 4.68, at 13.3-1	62.24
Silver	9.36
	<hr/>
	71.60
5 Attic tetradrachms (17.44)	69.76
Electrum 14.04 \times 5	70.20

It will be noted that this equation, which is slightly favorable to the Attic currency, used the 5-1 ratio of electrum and silver which was that used for the Gorgoneion type electrum of 8.18 in exchange with Attic currency.

The Thraco-Macedonian coin, wt. 16.36, is a double stater of the weight of Croesean gold, or the Cyzicene electrum stater. The latter

⁴⁸ *Proc. Brit. Acad.* III (1908); *JHS* 31 (1911), 151–160; *Hist. of Ancient Coinage*, 91–101.

⁴⁹ Gardner's suggestion (*Hist.* 94–95) that they were designed to exchange with Persian darics, seems to me to be most unrealistic; one does not design a currency to exchange with that of one's chief enemy.

contained less gold than the coin here under consideration, if the statement by Xenophon⁵⁰ that the Cyzicene stater was the equal in value of the gold daric, 8.42 (in silver at 13.3-1 = 111.986) be taken as fact, for this coin is nearly 70% gold (64 +). The type of this coin is a modification of one of the tribal Dionysiac types (cf. Chapter III) which was widely used in the area. The centaur and nymph are generally on the verge of or in violent contact with one another,⁵¹ but here the nymph is on friendly terms with the centaur and is apparently enjoying the ride on his back. As was the case with the preceding electrum with the Gorgoneion type, the coin is adapted to exchange with Attic currency and it may have been struck in connection with the revived tribal alliance coinage discussed at the end of Chapter III, for international trade. The equation follows:

Electrum	16.36
Gold (70%) 11.45 at 13.3-1	152.30
Silver (30%)	<u>4.91</u>
	157.21

Attic tetradrachm, 17.44 × 9	156.96
Tetradrachm, 13.09 × 12	157.08
Electrum, 16.36 × 9½	155.42

It will be seen that, while the gold rate is constant, as it seems to have been at least until the end of the fifth century, the rate for electrum has increased almost to the conventional 10-1. However, none of the electrum considered can be used at that rate of exchange without doing violence to the well-attested ratio of gold and silver. It is strange that this electrum cannot be used with the Ionian Revolt

⁵⁰ *Anab.* I, 3, 21. He states that the daric or the Cyzicene stater was the soldier's monthly rate of pay on that expedition.

⁵¹ Cf. the illustrations cited in note 47.

electrum with which it was contemporary. It must be concluded that both groups of electrum were for the purpose of dealing with Athens rather than with each other.

The first at least of these three series of electrum coins, which shows so clearly the reason for the creation of the tetradrachm of 13.09, is of considerable chronological importance, both for the date of the introduction of the tetradrachm and for the origin of the whole series of Thraco-Macedonian tribal issues. The number of coins adduced as evidence is assuredly small. There exist also fractional pieces whose types and fabric are similar. Since these have not been analyzed, it has seemed unwise to argue from them. Electrum currency probably never played a large part in the monetary affairs of the north; the two later series of electrum just discussed, show that it served for only international trade after the middle of the sixth century. Its chief importance is as the source of the much-misunderstood tetradrachm, the vitality of which is attested by the variety of types (i. e., of issuing tribes; cf. Chapter III), its retention by Alexander, and its much later survival in the coinage of Damastion and the Paeonian dynasts. Its ease of exchange with Attic tetradrachms, at the rate of four to three, and also with the tetradrachms of Ainos,⁵² at the rate of five to four, are reasons for its vitality.

The original stater of 9.82, which is the basis for the luxuriant variety of denominations, disappeared with, or shortly before, the retreat of the Persians, except at Thasos and possibly the mainland directly opposite that island. The Macedonians employed a selection of types and weights from the general supply in the area. Alexander made no change in the denominations after 479, beyond discontinuing the stater,⁵³ and using its type as a reverse for his tetradrachms and some fractional pieces. The varieties used, with their correlation with other currencies used in the northern Aegean, give some indications of the directions of Macedonian commerce, outside the tribal area.

⁵² J. M. F. May, *Ainos, its History and Coinage*, 265–269.

⁵³ The probable date of the cessation of the goat staters of Aegae is discussed below in Chapter III.

1. Octadrachm	29.46 – coins of Abdera
2. Tetradrachm	13.09 – Athens and Ainos
3. Octobol	4.36 – Athens
4. (Heavy) tetrobol	2.45 – Abdera
5. (Light) tetrobol	2.18 – Athens
6. Triobol	1.82 – Abdera

The fractional issues smaller than no. 6 are difficult to classify, because of the slight possible variation in weights between the heavy and the light obol. It would be of interest to know the Macedonian names for nos. 3–6. Possibly they were referred to by their types, like Athenian “Owls” or Corinthian “Colts.”

In view of the fact that the norms for the denominations used by Alexander have been worked out from the lighter Babylonian mina, it has not been necessary to arrange frequency tables. A list is appended of the weights of the coins of Alexander and Perdikkas, in which the fluctuations are evident. There is no indication of a lowering of the standard, an event which probably occurred much less frequently than supposed. Part of the weight variation may have been caused by wear (this is particularly true in the case of the coins of Perdikkas) and much of it must have been the result of careless preparation of the flans. The two tetrobol denominations show a few wildly aberrant weights in Group I; in Group II, the light tetrobols also show a few, but in later groups this is not the case. I think that the explanation lies in the close approximation in the size of the flans for the denominations. In Group I, there was so much experimentation and change that it is quite possible that workmen got the flans confused; in Group II, some few remaining heavy tetrobol flans may have been carelessly thrown in with the others to be used up, since the heavy tetrobols were not struck during Group II. The variant weights of the tetradrachms defy explanation: some coins struck from the same pair of dies differ widely in weight. I append a list of the weights of all denominations except the small fractions in all groups.

GROUP I⁵⁴

<i>Octadrachms</i>	<i>Tetradrachms</i>		<i>Heavy tetrobols</i>		<i>Light tetrobols</i> ⁵⁵	
	(a)	(b)	(normal)	(light)	(normal)	(heavy)
28.60	12.60	12.52	2.49	2.20	1.92	2.66
26.44	14.97	13.12	2.45	2.10	2.06	2.32
28.19	12.21	11.89	2.53	2.24	2.05	2.39
27.84	12.80	13.07	2.46	2.04	1.92	
	12.83	13.13	2.35	2.12	1.98	
	10.80	13.15	2.29	2.10	2.00	
	11.38	13.10	2.37	2.08	2.05	
	12.58	11.35	2.44	2.15	2.06	
	12.67	11.35	2.33	2.21	1.83	
		12.44	2.28	2.19	1.93	
		13.19			2.12	
		12.61			1.95	
		12.68			1.93	
		12.70			2.00	
		13.20			1.63	
		13.33			1.68	
		13.24			2.11	
					2.09	

GROUP II

<i>Octa- drachms</i>	<i>Tetra- drachms</i>	<i>Octobols</i>	<i>Light tetrobols</i> ⁵⁸			
			<i>H Series</i>		<i>A Series</i>	
			<i>(normal)</i>	<i>(heavy)</i>	<i>(normal)</i>	<i>(heavy)</i>
29.01	11.75	3.65	2.10	2.75	2.20	2.49
26.10	12.34	3.96	1.99	2.27	1.94	2.42
28.66	12.61	3.99	2.14		1.76	2.30

⁵⁴ The weights are listed following the order of the coins in the catalogue.

⁵⁵ It is possible that some of these were struck on triobol (1.83) flans, for not even the lightest shows excessive wear.

⁵⁶ In this group, the light tetrobols which are much below the norm are very worn.

Macedonian Regal Coinage

<i>Octa- drachms</i>	<i>Tetra- drachms</i>	<i>Octobols</i>	<i>Light tetrobols</i>		<i>A Series</i>	
			<i>H Series</i>			
			<i>(normal)</i>	<i>(heavy)</i>	<i>(normal)</i>	<i>(heavy)</i>
28.77	12.67	3.69	2.24		2.09	
28.98	12.46	3.85	1.76		2.03	
28.85	12.14	4.02	2.07		2.05	
					1.92	
28.64	12.97	3.90	1.96		1.90	
25.13	12.71	4.00	1.85		2.04	
25.92	12.66	4.13	2.13		2.13	
29.10	13.40	4.05	1.95		2.05	
29.00	12.83	4.06	1.79		1.90	
28.20	12.56	4.07	2.15		2.11	
	12.65	4.03			1.97	
	12.76	4.12			1.94	
	12.50	4.00			2.00	
	12.72	4.08			2.20	
		4.14			2.02	
		4.15			2.09	
		4.07			1.80	
		3.27			2.15	
		4.27			1.88	
		3.96			1.96	
		3.74			2.04	

GROUP III

<i>Octadrachms</i>	<i>Tetradrachms</i>	<i>Heavy tetrobols</i>	<i>Light tetrobols</i>
29.09	13.17	2.37	1.97
26.99	13.11	2.28	2.00
28.12	13.37	2.39	1.90
28.95	12.62	2.53	1.85
	13.25	2.63	1.87

Weight Standard

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<i>Octadrachms</i>	<i>Tetradrachms</i>	<i>Heavy tetrobols</i>	<i>Light tetrobols</i>
	12.48	2.51	1.96
	13.35	2.54	2.05
	13.60		2.20
	13.02		1.80
	13.26		
	12.96		
	12.87		
	12.25		

GROUP IV

Light Tetrobols

<i>Series 1</i>		<i>Series 2</i>		<i>Series 3</i>		<i>Series 4</i>	
1.75	1.93	1.98	1.62	1.67	2.00	1.98	1.68
2.00	2.11	1.84	2.03	2.00	1.87	1.57	1.99
2.06	1.80	2.05	1.92	1.93	1.73	1.81	
1.75	1.96	2.00	1.92	2.05		1.75	
1.80	1.98	1.77	2.07	2.00		1.90	
1.92	1.90	2.04	1.87	2.02		1.99	
1.96	1.99	1.95	1.58	1.98		1.88	
2.03	1.65	2.01		2.01		1.77	
1.80		1.76		1.92			

GROUP IV

*Heavy Tetrobols*⁵⁷

<i>Series 1</i>		<i>Series 2</i>		<i>Series 3</i>	
2.29	1.82	2.37	2.41	2.31	2.09
2.30	2.37	2.12	2.30	2.19	2.29
2.05	2.14	2.10	2.38	2.22	2.13
2.11	2.42	1.99	2.28	2.40	2.25
2.30	2.28	2.29	2.52	2.24	2.43

⁵⁷ In this group many coins are very worn; the weights are the result of that fact rather than of mistaken use of flans.

<i>Series 1</i>		<i>Series 2</i>			<i>Series 3</i>
2.07	2.27	2.34	2.49	2.34	1.95
2.03	2.73	1.98	2.41	1.75	2.41
2.10	2.09	2.32	2.20	2.26	2.10
2.10	2.23	2.36	2.40	2.23	2.04
2.53	2.35	1.93	2.33	2.38	2.06
2.14	2.00	2.25	2.33	2.38	2.26
2.08	2.30	2.11	2.24	2.38	2.26
2.33	2.38	2.17	2.26	2.22	2.29
		2.33	2.28	2.26	2.00
		2.24	2.35	2.31	2.16
		2.24	2.31	2.17	
		2.41	2.42	2.19	
		2.26	2.25	2.48	
		2.21	2.41		

CHAPTER III

COIN TYPES

A survey of the coinage attributed to Alexander, the first coins in that long series of Macedonian regal issues, reveals a decided difference between them and the coins of the majority of the Greek city-states. Nearly all Greek cities displayed extreme conservatism as regards types, which were few and essentially only variants of one major theme, and denominations, which likewise were few and obviously related to one another. Alexander's coins display as wide a variety of types as of denominations and the variety is as incoherent as the denominations are. The seemingly abrupt appearance of Macedonian regal currency early in the fifth century does not mean that it was the result of spontaneous generation; it is rooted in the past and represents an inheritance from the sixth century tribal issues, long known for their variety of types and incomprehensible weight standard. As Alexander used certain denominations used earlier by the tribes, so also he used some of their types.

I. TRIBAL ISSUES: GENERAL SURVEY.

For a century or more before the advent of the signed currency of Alexander, the whole Thraco-Macedonian coastal and hinterland area had produced a rich and diversified series of coins. These have been studied painstakingly by Svoronos in the article already cited,¹ but his assignments of the various types have not been generally accepted, nor are they all acceptable. Nevertheless, his collection and illustration of the varieties classed as "uncertain, probably Thraco-Macedonian" and homeless, lo, these many years, make it possible to survey the group in its approximate entirety. By considering the coins as a homogeneous group, one is able to see clearly

¹ See Chapter II, note 1.

a pattern in which three major religious or mythological types are associated with certain denominations, each of which is issued by one or more tribes. No tribe seems to have used all the types and all the denominations: some used several of each; some confined themselves to one. The three types are associated respectively with Dionysus, Ares, and Apollo-Hermes.²

The types involving oxen, their driver, caduceus, and rose or other solar symbol³ are those of Apollo-Hermes; the horse, alone, attended, being mounted or ridden, and the dog, possibly the lion, allude to Ares. Dionysiac types are more varied – nymphs, satyrs, centaurs and the vine. There are some additional types: Pegasus, Gorgoneion (see note 3), Herakles, and various animals, which do not fall into these categories. The pattern, reduced to its simplest terms, is this:

<i>Denominations</i>	<i>Type</i>
Quadruple stater	Apollo-Hermes
Decadrachm	Apollo-Hermes; Ares
Triple stater	Apollo-Hermes; Ares
Tetradrachm	Apollo-Hermes; Ares; Pegasus
Stater	Apollo; Ares; Dionysus; Herakles; Gorgoneion; animals.

The fractions smaller than the stater continue these types in a more complex pattern, study of which would surely clarify much that is obscure in the arrangement of the coins. The reverses, with their various sorts of incuse and subsequent types, should also prove enlightening in the final attribution of the coins and the location of their issuing agents. Inscriptions *seem* to have been used first on the obverse and

² Cf. Herodotus, V, 7, where he states that the gods of Thrace are Ares, Dionysus and Artemis, and that the princes worshipped Hermes especially of the gods, claiming him as their ancestor. Cf. also Pindar, *Pyth.* 4, lines 178–180, who gives the names of two sons of Hermes and Antianeira, Echion and Erytus, who grew up near Mt. Pangaeum.

³ The whole matter of solar symbols is too complex for discussion here. The dotted theta and the Gorgoneion have both been so considered.

to have been considered originally as symbols;⁴ later, they become so complete as to compare favorably with those on Hellenistic coins. The archaic form of some of the letters appearing on the tribal issues is retained on the earliest inscribed coins of Alexander.

The types most generally used (those of Apollo-Hermes, Ares, and Dionysus, as well as the somewhat less frequently occurring Heraklean types) have a natural association with the area. Tradition and common consent localized the myth of Hermes and the cattle of the Sun in the north,⁵ where Apollo was pre-eminently a sun-god. The Pangaeian rose, the extraordinary beauty of which was mentioned as late as Pliny,⁶ has the same applicability as a solar symbol as the canting type of Rhodes, the connection of which with Helios or Apollo is generally recognized. It is quite possible that the "dotted theta" was originally a stylized version of this rose. The rose, or an unidentifiable flowering plant, appears as a symbol with nearly every type and in nearly every denomination. As far as I am able to determine, the caduceus is used as a symbol only in Macedonia; e. g., as a brand on horses (see PLATE II, 5);⁷ in the hand of Hermes, it appears in other sectors. All signs point to Apollo as the more important of the two divinities: the legend itself, which makes Hermes' stay in the neighborhood brief and not particularly honorable; the types, which as frequently show the oxen drawing a cart as being led off by an attendant who is presumed to be Hermes even when he lacks the caduceus; and the more frequent use of various solar symbols.

Ares and Dionysus, who were always a bit embarrassing to the Greek Pantheon, were at home in the north. Ares is associated with the man-eating steeds of Diomedes of Thrace and with the supernatural

⁴ The symbols occurring on these coins are so varied and open to so many interpretations that it has seemed unwise to become involved in them in this study. It must be noted, however, that a consideration of them would surely be necessary in the final disposition of these coins.

⁵ Cf. the *Homeric Hymn to Hermes*; Shelley's translation is delightful.

⁶ Pliny, *NH*, XXI, 10, 17.

⁷ It is impossible to say if this points to an association or an amalgamation of the Apollo-Hermes and the Ares types.

horses of Rhoesus. Later, the "Thracian rider" or *eques Romanus* of many reliefs attests the relation. Recently, Jean Babelon⁸ has attempted to give a name to this divine rider, but so much conjecture is necessary in any such essay that it is better simply to say that he is to be connected with the cult of Ares. Whether he be warrior or hunter is difficult to determine; his attire, on the coins, is that of a hunter while the use of the helmet as symbol or reverse type shows that the arts of war are somehow involved. In the catalogue of the Macedonian coins, where a rider is the type, I have used the term "warrior-hunter" because a decision is impossible. Later reliefs show the rider clad sometimes as a hunter and sometimes as a warrior. Dionysus spent his childhood on Mt. Pangaeon. Brought up by Nys(s)a, he rollicked there with all his merry crew—nymphs, satyrs, centaurs—and his worship was conducted by the Bessi.⁹

The appearance of the hero Herakles as a type on the tribal issues is quite wide-spread and is explained by his deeds in the north. He captured the horses of Diomedes and then founded the city of Abdera, establishing games there in honor of his friend Abderus, who was killed while helping him secure the horses. It may be mentioned in passing that the later use of Herakles or his equipment as a type by the Macedonian kings seems to originate not so much in this natural association of the hero with the area as from the legend which traced the ancestry of the kings to Argos, whose hero Herakles was.¹⁰

Of the animals which are used as types, the goat and the cow with suckling calf, while they are not so obviously appropriate to this area, have some justification. The goat is the canting type of Aegae, and may have a remote reference to Apollo, since in the legend of the coming of the Macedonian kings, the sunlight was their heritage and a goat

⁸ *Rev. Num.* (1948), pp. 1–26.

⁹ Herod. VII, 111; the Bessi were the servants of the oracle of Dionysus for the Satrai.

¹⁰ See *infra* p. 60. This conclusion is to be drawn from the fact that during the period of the tribal alliance, Heraklean coin-types were not used in Macedonian territory and likewise from the fact that when Alexander revived the alliance (cf. Chapter VI) the lion type was not used on his coins.

marked their destination.¹¹ The cow r., with suckling calf,¹² although its significance is uncertain, can plausibly be associated, as a member of the genus *bos*, with the Apollo-Hermes group of types in this area.

The remaining types which appear in the pattern on page 44 the Gorgoneion and Pegasus, are apparently intrusive (but cf. note 3). They may legitimately be considered together on the basis of their blood relationship. Medusa, and Pegasus, are so closely connected with Corinth that there is every likelihood that their use as coin-types in the north arose from the early connection of Corinth with the north. (Cf. Chapter I.) Likewise, some significance may be attached to the fact that the Pegasus type is used on the tetradrachm, the denomination created to be used with the electrum, since the forepart of a Pegasus is one of the obverse types used on the eastern affiliates of the third group of electrum coins. The Gorgoneion appears on the electrum of the second group,¹³ in a form stylistically earlier than that employed for coins in the Thraco-Macedonian area. Thus, their source may be either Corinth or Asia Minor.

The pattern of type distribution indicates some sort of monetary convention among the issuing agents. The survey made possible by Svoronos' collection of material reveals that obverse types were constant for certain denominations, whoever issued the coins, and that some tribes (e. g., the Orrheskians) issued inscribed coins in all three major types in some, but not all, of the denominations devoted to those types. From the extant coins there is no evidence that any *one* tribe used *all* the denominations above the stater as well all *all* the types. Some tribes apparently confined themselves to one

¹¹ Cf. Chapter I.

¹² This type is a survival of a favorite Minoan motif and appears also on other coins in the north which are not on the standard of the tribal coins. Cf. Cambridge, *SNG*, III, pl. 34, 1901. Its use on tribal coins is always marked by the orientation of the cow: standing r., with head reverted; on coins of another standard, the direction is left. The type was used early by Corcyra, and in the fourth century by Carystus. It may be that a common motif, a familiar survival from a period of which the sixth century tribesmen knew little, was used because those worshippers of Apollo and Hermes interpreted the representation in terms of their own religious beliefs.

¹³ Cf. Chapter II.

type and one denomination, disregarding the fractional pieces. The preponderance of coins with Dionysiac types makes them, at first glance, seem the more important. However, the restriction of these types to the staters, and the use of the other types in the larger denominations, can well be taken to mean that the metal was apportioned in fairly equal quantities among the types characteristic of the three divinities, and that commercial or other considerations determined the amount to be used in various denominations. This hypothesis perhaps is over-complex; the assumption that these "rude and barbarous" tribes were capable of establishing and enforcing any such ingenious monetary convention as this may be difficult to accept. Let it be remembered that modern ignorance of these tribes does not prove their barbarous estate. All the evidence of the coins themselves, the variety of types and denominations, the vigor of the art and its stylistic development, indicate that the issuing agents have long been under-estimated because of absence of information about them. It is quite possible that detailed study of the coins would result in considerable modification of the suggestions made here. Such examinations as has been possible shows clearly the absence of hazard and the presence of design in their minting.¹⁴

2. TRIBAL ISSUES: MACEDONIAN COINS PRIOR TO 480/79

It does not lie within the scope of this study to investigate in detail the issuing agents of the mass of tribal coinage. However, two groups of coins which show a clear relation to the regal Macedonian issues must be examined in some detail. They will be seen to be the precursors of Alexander's coins and to furnish an explanation for the variety of his coin-types. They are the goat staters of Aegae and certain octadrachms and tetradrachms with types of Ares: horse and attendant, and horse and rider.

✓¹⁴ Cf. Babelon, *Traité I*, 2, 1037, who says, "Il faut aussi reconnaître que ces monnaies des différentes tribus thraco-macédoniennes ont quelque chose de commun et d'international. . . . Ces tribus s'empruntent mutuellement leurs types monétaires."

A. The Goat Staters, PLATE I, 1-8.

The goat staters are quite generally assigned to Aegae.¹⁵ Svoronos' assignment of them to the Derronians,¹⁶ among whom the goat type has no recognizable meaning, is erroneous. The monogram \mathfrak{E} on which he bases the attribution is that of Edessa, the older name for Aegae.¹⁷ The fourth century coin of Lykkeios of Paionia¹⁸ which has the inscription $\Delta\epsilon\pi\pi\omicron\nu\alpha\iota\omicron\varsigma$ indicates that that tribe is to be located at some distance from the Thermaic gulf; the succeeding monograms on the goat staters $\Lambda\Lambda$ and $\mathfrak{A}\mathfrak{A}$ have nothing to do with the Derronians, while a city monogram preceding a personal one is perfectly acceptable. The type is of purely local significance, a canting type which may have given rise to the fictitious oracles (see Chapter I). The quadripartite linear square on the reverse shows the development common to coins of the Thraco-Macedonian area: the earliest examples (PLATE I, 1) are rude and irregular; the latest are precisely formed (PLATE I, 5-8). The development is closely paralleled by that of the tetradrachms of Acanthus,¹⁹ the different stages in each series being marked by similar symbols or monograms on their obverses.

The eight staters on PLATE I show the various stages through which these coins developed. The earliest had no symbol or letter in the field. If one judges from the style of the reverse, the technique of the obverse, and the coins of Acanthus, the first added symbol was the flower, possibly the Pangaeian rose. Only with this symbol is the goat represented as advancing left, with head reverted. The next symbol was the dotted theta, which may have been intended to represent a stylized flower or a solar symbol, or both. It was followed by a circular theta with a dot in the center, an obvious technical

¹⁵ Cf. Head, *HN*³, 198-199; Babelon, *Traité*, I, 2, 1095-1104. Gaebler, *AMNG*, III, 2, 18-20.

¹⁶ Svoronos, *HPM*, 6 and 7.

¹⁷ Cf. Babelon, *Traité*, I, 2, 1095 and Strabo, X, 1, 15.

¹⁸ Cf. Gaebler, *AMNG*, III, 2, pl. 37, 5.

¹⁹ Desneux, *Les Tétradrachmes d'Acanthos*, reprinted from *Rev. Belge de Numismatique*, (1949), 5-122, with magnificent illustrations.

advance over the variety made by the drill alone. Then came the monogram \mathcal{E} and, finally, the first two letters of Alexander's name, in regular or reverse order.²⁰ On the coins of Acanthus in Desneux' catalogue, his order of nos. 1-92, includes successively those with no symbol, the flower, no symbol, the flower, dotted theta, circular theta, pecten shell, and finally A or AKAN in the field. This group of coins he dates before 480/79; the next series, with AKANΘION on the reverse, he dates after that time, on the analogy of the coins of Alexander. He places the earliest issue ca. 530 B.C., a date which is probably too low, although the paucity of specimens would seem to justify it were it not for the fact that the 92 die combinations include 88 anvil and 81 punch dies. In other words, there must be a great many missing die combinations.

Of the coins which he assigns to the years 480-450 (or possibly a little later, although he is uncertain about an interruption of Acanthian coinage following the promulgation of the Athenian currency decree), there are 23 combinations of 22 anvil and 21 punch dies: again many die combinations must be missing. To be ultra-conservative and take the number of extant dies as a close approximation of the total used during the thirty (or more) years, the resultant calculation suggests that the life of a die was a little over a year. On that basis, the dies for coins, nos. 1-92 in his catalogue should cover a period not less than 81 years (the number of surviving punch dies) and the beginning of the coinage of Acanthus should be placed ca. 560. The exact time of origin of the whole series of Thraco-Macedonian coins is uncertain, but for stylistic, metrological and typological reasons it should be placed early in the sixth century, if not at the end of the seventh. The survival of so many (92) die combinations for the early Acanthian coins and the parallelism between the progress of symbols on those coins and on the goat staters are indications that both series of coins began well before the

²⁰ The order of the letters is of no assistance for purposes of dating the coins. The light tetrobols of Group I (nos. 38 and 39 in the catalogue) show the two letters retrograde.

middle of the sixth century.²¹ Since we do not know the date of the accession of Amyntas, it cannot be said that he inaugurated the Macedonian coinage, or at what point he continued it if it had been begun before his time.

Turning to the latest of the goat staters, those with $\wedge\wedge$ or $\wedge\wedge$ in the field, we may conclude that they were struck after 498, the earliest probable date for the accession of Alexander. Possibly those with the monogram \mathfrak{A} should likewise be assigned to that king. The whole series of coins, judged by published specimens, is rather small. It is questionable whether, on this account, one may argue that the monogram group is to be assigned to Alexander, even though there are so few surviving staters (and one of these plated!) with his own initials. The following list of goat staters and their fractions is not intended to be exhaustive; it contains only already published specimens in their relative chronological order. The larger proportion of surviving coins is in the monogram group, which may represent the issue of Amyntas. At all events, the indications both from the coins of Acanthus, where the floral symbol and the dotted or circular theta occur on so many surviving dies, and from the coins of Aegae, where nearly half the surviving dies are those of the monogram group, are that both series were begun before the middle of the sixth century. Beyond such an approximate date it is not possible to conjecture.

The fractional issues (PLATE I, 9-12) of the same type as the staters, have most frequently two pellets which are surely marks of value, since the coins are diobols. One coin (PLATE I, 11) has the dotted theta; there are a few others with the first two letters of Alexander's name, always retrograde (PLATE I, 12). The following is not a complete catalogue, but it should serve to indicate that the stylistic development of the goat staters is a close parallel to that of the tetradrachms of Acanthus.

²¹ I have made no attempt to assemble a complete *corpus* of the goat coins.

Staters

1. No symbol	<i>Weber Coll.</i> , 1837	9.56
	Naville, 1922, 429 (PLATE I, 1)	9.56
2. Flower	<i>B.B.</i> II, p. 166, 12 PLATE I, 2)	9.57
	<i>Hunter Coll.</i> , I, p. 267, 1	9.37
3. Dotted theta	Naville, 1927, 624	8.62
	Naville, 1925, 388 (PLATE I, 3)	9.78
	Egger, 1914, 461	9.20
4. Circular theta	<i>McClellan Coll.</i> , II, 3098 (PLATE I, 4)	9.15
	<i>Weber Coll.</i> , 1839	9.18
	<i>B.B.</i> II, p. 166, 10	9.40
	<i>BT</i> I, 2, 1546	9.20
	Desneux Coll.	
5. Monogram &	Gillet (Jameson, 1836) (PLATE I, 5)	9.27
	Locker-Lamson Coll., 152 (PLATE I, 6)	9.31
	Berlin, <i>AMNG</i> III ² , p. 19, 6	9.40
	Hirsch, 1933, 968	9.24
	<i>BMC Mac.</i> , p. 37, 1	9.48
	<i>Weber Coll.</i> , 1840	9.30
	<i>B.B.</i> II, p. 166, 11	9.30
	<i>BT</i> I, 2, 1540	9.41
6. Initials ΛΛ	<i>BMC Mac.</i> p. 37, 2 (PLATE I, 7)	9.10
	<i>B.B.</i> II, p. 166, 13 (plated)	8.61
7. Initials ΛΛ	Berlin, <i>AMNG</i> III ² , p. 19, 5 (PLATE I, 8)	9.28

Diobols

1. Pellets	Naville, 1928, 416 (PLATE I, 9)	.93
	May Coll. (PLATE I, 10)	.87
	Delepierre 2323 (pierced)	.95
	Desneux Coll.	
2. Dotted theta	Naville, 1921, 695 (PLATE I, 11)	1.11
3. Initials ΛΛ	Berlin, <i>AMNG</i> III ² , p. 20, 16 (PLATE I, 12)	.90
	London, <i>NC</i> 1892, pp. 5-6	1.07

B. Ares-type Octadrachms and Tetradrachms

In the general survey of the types used in the north, those portraying a horse were considered as referring to Ares. Among them distinctions are to be made if one is to assign coins to their issuing agents. In addition to those coins which show the horse alone as type, those which have the horse and man together show three varieties. The first, which has two poses, occurs on octadrachms and fractions, the second on staters, and the third, also with two poses, on tetradrachms only. Scant attention has been paid to the difference of treatment and style in these types, and consequently careless attributions have been made.

The octadrachm type is always a horse with attendant holding the reins and two spears; in both poses, the frequent occurrence of a curious error is noteworthy: the attendant's legs are apparently detached from his body, or he is to be visualized as crouching behind the horse. (See PLATE II, 1-4.) One variant of the type, which nearly always bears the Bisaltian ethnic, with curious letter forms, shows the attendant's upper body frontally, although his legs are in profile. (PLATE II, 1-3.) In some cases, notably PLATE II, 2, the proportions of the horse are unnatural. The coins show extensive use of the drill and a general heaviness of musculature in both animal and man. The style of the coins improves considerably, culminating in the piece in the Hunter Collection (PLATE II, 3) where the drill has been little used or its traces skilfully masked by reworking. The fractions of this type are illustrated on PLATE II, 14 and 15. The other variant (PLATE II, 4-6), which is never inscribed and which often shows traces of the caduceus as a brand on the horse's rump (see PLATE II, 5, 6), always has the attendant completely in profile to the right. The design is smaller than the other and fits well within its border; the absence of an inscription gives these coins an uncluttered appearance which is pleasing. The drill is used chiefly for decorative effect, since its marks are most often toned down by reworking at the joints, but left untouched for tail, border and exergual

line.²² The body and musculature of the man are less heavy than in the former variety and the proportions of the horse are in most cases more realistic. A curious exception is PLATE II, 6, where the horse's left foreleg is very badly done; this bears a close resemblance to an inscribed coin of Alexander bearing the same fault. (PLATE III, 5.) The fractions of this variant are similar to the octadrachms (PLATE II, 18).

The stater type (PLATE II, 10, 11, 13) is that of a man subduing or mounting a horse, which may be facing in either direction. The horse is spirited, in contrast to the quiet horse of the octadrachms. He is slim and wiry; as he struggles against the restraint of his master, his legs are bent almost double. The man, bareheaded (PLATE II, 10) helmeted (PLATE II, 11), or wearing a hat (PLATE II, 13),²³ is clad in a short chiton; frequently, we see his back rather than his profile. The whole design is fine and sharp; the horse's mane has a pattern somewhat similar to the stylized mane of the second octadrachm variant. On the obverse, these staters bear the ethnic of the Ichneaians (if this be a name of a tribe rather than of a city), the Tyntenians, or the Orrheskians. The reverse of the first two have a wheel as type, one with four spokes, the other with six; the Orrheskian coins have a mill-sail reverse, or one quartered diagonally. The form of the horse on these staters recurs on coins of Alexander struck after 476.²⁴

The third type is that of the mounted warrior-hunter, occurring on tetradrachms and fractions. On those tetradrachms,²⁵ which are inscribed Sermylia, or a variant thereof (PLATE II, 12), the horse is like that of the staters in breed; he is, however, galloping along

²² The similar use of the drill on the coins of Acanthus for decorative effect has been discussed by Desneux.

²³ The variety of his head-gear makes it impossible to call him either warrior or hunter – he is ambiguously dressed.

²⁴ Cf. Chapter VI.

²⁵ These coins are on the Euboic standard; i. e., Sermylia was not a member of the monetary convention, although the town must have been near members of it. This conclusion must be valid because of the similarity of the horse, and the type, to those of Orrheskians, etc. who were members of the alliance.

vigorously while the rider brandishes his spear. The mane pattern is similar to those just described. The reverse is at first a rough incuse; on the later coins, the four-part incuse is curved to the semblance of a clover leaf within the lines. The obverse of the fractions, either a galloping riderless horse or one with a rider, may be seen on PLATE II, 16, 17. The flower in the field of no. 16 is similar to that on the goat staters and on the coins of Acanthus. The other tetradrachms which employ the warrior-hunter type (PLATE II, 7-9) in style, technique and design are very like the second octadrachm variant, in spite of the fact that the horse has a rider. The animals are in the same quiet pose, merely lifting a forefoot. These tetradrachms are never inscribed, but have the anonymous four-part linear square within the incuse on the reverse. A few dies are too large for the flans, as in the first octadrachm variant, but they are in the minority.

A comparison of these latter tetradrachms and the second octadrachm variant with the coins of Alexander shows clearly that they are Macedonian. Compare, for example, PLATES II, 6 and III, 5; II, 7, 8, and III, 3; II, 9 and IV, 11, 12. The spears may be held in either hand. When they are held in the outer (right) hand, the elbow is drawn back (PLATE II, 7 and III, 1-4); when held in the concealed hand, the right arm is straight from the shoulder (PLATE II, 8, 9, and III, 6). The Alexander tetradrachms, PLATE IV, do not always continue the practice: cf. PLATE IV, 8a and 11a; but it is in evidence on the tetrobols, cf. PLATE V, 23a-33c, as well as on the octadrachms. In spite of the fact that the horse and attendant type does not appear on Alexander's octadrachms before Group II (see PLATES VI and VII), the close association of the uninscribed coins with those of Group I is self-evident; it is also to be noted that the caduceus as brand, which appears on some of the anonymous octadrachms (PLATE II, 5 and 6), occurs on some of Alexander's octadrachms, e. g. PLATE III, 5.²⁸ That these coins are Macedonian rather than Bisaltian cannot be gainsaid; the fractional issues (PLATE II, 18-21)

²⁸ The caduceus is used as a reverse symbol on some few tetradrachms of Alexander and on a considerable number of the heavy tetrobols of Perdikkas.

with types both of the octadrachms and of the tetradrachms, show their kinship to the larger coins here attributed to Macedonia and their lack of affinity to the Bisaltian and Sarmylian coins (PLATE II, 14-17). Their anonymity is disconcerting, for there is no apparent reason why the Macedonians should not have used the ethnic as the other tribes did.

Various factors indicate that these coins should be dated rather late in the series of tribal issues: the close similarity in style to Alexander's first inscribed coins, the regularity of the quadripartite linear square on the reverse (not shown on the plates), and the absence of such stylistic development as is seen on the goat staters.²⁷ It must be concluded that Macedonia, though it struck its earliest coins (the goat staters) on the Thraco-Macedonian standard, did not join the monetary alliance of the tribes until rather late. The list which follows, and which lays no claim to completeness, has been arranged in the relative order of striking on the basis of style. The most that can be said from the coins is that on the Brussels coin (PLATE II, 9) and the one in the McClean Collection, the obverses are very like the tetradrachms of Group I, and the reverses resemble those on the goat staters with Alexander's initials.

Octadrachms.

G. <i>AMNG</i> III ²	p. 49, 6; pl. XII, 1.	27.10
A. M. Newell Coll.	(PLATE II, 4)	27.92
Svoronos, <i>HPM</i> ,	p. 109, 17; Pl. XII, 1 (<i>Weber Coll.</i> 1847)	
	(PLATE II, 5)	28.58
	p. 108, 16a; Pl. XII, 2 (London)	
	p. 108, 16c; Pl. XII, 4 (<i>Jameson Coll.</i> 938)	27.80
	p. 108, 16d; Pl. XII, 6 (<i>BT.</i> I, 2, 1496)	28.07
Boston, Warren Coll., 554	(PLATE II, 6)	28.47

²⁷ The finest example of the series is shown in the sale catalogue of the A. N. A. Convention, 1952, p. 30 and pl. II, no. 925. Mr. Edward Gans was kind enough to send it on to me for examination before the sale.

Tetradrachms.

Gans Collection (from A die of PLATE II, 7)	12.97
G. Falsch. p. 198, 2c; ANS – ETN	12.70
p. 198, 2a; Pl. II, 7 (BT. I, 2, 1513b)	13.06
p. 198, 2b; Pl. II, 8 (BT. I, 2, 1513a) (PLATE II, 7)	12.58
p. 200, 4b; Pl. II, 11 (Munich) (PLATE II, 8)	12.17
Petsalis Coll., 79	
p. 200, 5b (Copenhagen, SNG, 477)	13.22
p. 201, 7a (Brussels) (PLATE II, 9)	12.81
p. 201, 7b; Pl. II, 16 (McClellan Coll., II, 3102)	13.42
Cahn, Basel	12.77

C. Summary

There can be no doubt that the coins of Group I, struck after 480/79, which abandon the anonymity of the Ares-type coins just discussed, are not the beginning of Macedonian regal currency. In view of the initials of Alexander on some of the goat staters, they cannot even be termed the first inscribed Macedonian regal issues. However, the date 480/79 is still to be taken as having some significance for Macedonian regal coinage, since it marked the freedom of Alexander from whatever form of restraint the proximity of the Persians imposed upon him. Therefore, it must be the terminal date of the two earlier groups.

The goat staters have been roughly dated from ca. 560 to some time after 498 (*supra* pp. 50 and 51); further study of all the tribal issues in the Thraco-Macedonian area is necessary before any more precision is to be attained about this series of coins. In the case of the octadrachms, tetradrachms, and fractions attributed here to the Macedonians, one can be more definite. Their terminal date has already been given as 480/79 – which *may* likewise be the terminal date of the goat staters, although the latter issue may have been discontinued somewhat earlier. In the fragmentary history of Macedonia as we know it, two dates may have some significance for the

Ares-type coins. They are 514/3, the date of the first recorded embassy of the Persians to the Macedonians, the embassy executed through the ruse of Alexander,²⁸ and 492, the time of the first expedition of Mardonius to Thrace in preparation for the invasion of Darius.²⁹ The activities of the Persians in the Thraco-Macedonian area must have inclined those tribes which had long been party to the monetary convention to a greater common effort. When the Macedonians came in contact with the Persians, inamicably, as we see from Herodotus, the occasion arose for them to unite to some degree with the other tribes, from whom they had hitherto held themselves aloof, except insofar as the goat stater and its fractions were based on the weight standard used by the tribes. When suddenly the Macedonians began using Ares-type octadrachms,³⁰ tetradrachms and their fractions, it is safe to conclude that a common military danger had compelled them to participate in an alliance of which the only historical record exists in the coins themselves. Between the two dates, 514/3 and 492, the probabilities incline toward the latter. The chief indication is the close similarity of style between the anonymous coins and those of the first group signed by Alexander, which would preclude the hypothesis of a long period of striking these coins. The fact that some of the goat staters bear Alexander's initials shows that they were struck later than 514/3, since Alexander was not ruling so early. The military danger was not so great in 514/3 as in 492, when some Macedonians were enslaved by Mardonius in the course of his subjection of territories in the path of the Great King. Mardonius' defeat

²⁸ Cf. Chapter I, p. 9.

²⁹ Cf. Chapter I, pp. 10–11.

³⁰ The Apollo-Hermes types all seem to appear on coins of an earlier period than the beginning of the fifth century, with the sole possible exception of those of Getas, king of the Edonians (cf. Gaebler, *AMNG*, pl. 27, 29. The caduceus symbol (cf. *supra*, n. 26) is used for a longer period. I believe that the choice of Apollo for the sole obverse coin type of the Chalcidic League is to be associated with the Apollo-Hermes type on the tribal issues, rather than that the choice was made because at the beginning of the Peloponnesian War, the Chalcidians looked to Sparta instead of Athens. The suggestion was made by Kleiner in his article "Der Olynthische Apollon und der Philippische Heracles," p. 188, in *Studies Presented to David Moore Robinson*, II, pp. 187–196.

at the hands of the Bryges of Thrace may mark the first united activity of tribes in that area: the monetary alliance had become a military one. The circumstances surrounding Macedonian participation in the alliance provide ample reason for Alexander's choice of Ares-types. It therefore seems logical to suggest that the anonymous Macedonian coins were struck between 492 and 480/79. The goat staters may be dated in either of two ways: if Alexander struck those with the monogram \mathcal{A} (the series with the most dies known to me) as well as those with his initials, those with the monogram would date from his accession, 498, to 492; and those with his own initials would be contemporaneous with the anonymous Ares-type coins. If Alexander struck only those with his initials, very likely they were struck between 498 and 492. In view of the fact that after 480 Alexander suddenly emblazoned his name on the octadrachms and their fractions, and used the goat's head as a reverse type on some of his tetradrachms and *their* fractions, I believe that he continued the goat staters during the period when he was also striking alliance coins. However, it may equally well be argued that he deliberately abandoned the goat staters during the period when he was working with the alliance to indicate his complete adherence with the tribes. At present, it is impossible to decide the date.

3. MACEDONIAN REGAL COIN TYPES.

The illusion of great variety caused by a casual glance at the Alexandrian issues is dispelled by finding the roots of his coinage. The main type is that of Ares, similar to that used by other members of the Thraco-Macedonian monetary alliance; the caduceus (which is also used by Perdikkas) is the symbol of Apollo-Hermes (cf. note 28); the goat is the local canting type. Dionysiac types are not used, unless the very infrequent leaf as a symbol be a vine leaf (PLATE IV, 15a). One new element is added: the heavy tetrobols have as their reverse type the forepart of a lion. One thinks immediately of the impressive lions on the coins of Acanthus, of the monumental lions of Amphipolis

and Chaironeia, of coin types from Samos or Miletus, and of the various types of Herakles and the lion in the Thraco-Macedonian area. If Ionian or Aegean types were to influence coins in this area, they should have done so a century before.³¹ The monumental lions are much too late.³² The origin of the lion type at Acanthus³³ is as yet unexplained. We know from Herodotus (VII, 125) that lions were common enough and bold enough to attack the camels of Xerxes' supply train in Macedonia, but that is scarcely a reason for using them as a coin type. Perhaps the best case can be made out for a connection with Herakles, for Heraklean types were used in the north during the period of the tribal issues; the legendary association of that hero with the area provided sufficient reason for it, particularly in the case of Abdera and Thasos. As regards the Macedonians, the position of Herakles as ancestor of the Temenid house of Argos is a more valid source for the use of a type referring to him, since the locale of Heraklean exploits in the north was beyond the sphere of Macedonian influence. The king's efforts to be recognized as Greek might well include this allusion to Herakles on his coins. It should be observed that the types of Macedonian coins after 480/79 are exclusively regal; the ethnic is never used. The comparative anonymity of the lion is not relieved until the end of the fifth century, when Herakles' club, quiver and bow appear as a reverse type on a few of Perdikkas' fractional issues (PLATE XI, f, with Herakles' head as obverse). In the fourth century, the lion is accompanied by a variety of Heraklean types and symbols.

³¹ See Chapter II for the possible relation between the Thraco-Macedonian tribal coinages and those of Asia Minor.

³² Cf. O. Broneer, *The Lion Monument at Amphipolis*.

³³ Cf. Desneux, *Les Tétradrachmes d'Acanthos*, 7-23.

CHAPTER IV

MACEDONIAN COINS: 480/79-414/13

I. MINT TECHNIQUE

Before a discussion of the coins, their arrangement, and their chronology, some observations may be made upon the technique and procedure of the Macedonian mint. These observations are culled from the various groups into which the coins have been divided and from the patterns of their die sequences. The die sequences for all groups are to be found at the end of this chapter.

Whatever the method of preparing the flans, it seems not to have changed throughout the fifth century. There is no apparent variation in the size of the coins; there are no residual protuberances on the edges of the coins, such as serve to indicate that the flans were cast in a series of moulds; there is likewise very little evidence of insufficient heating of the flans at the time of striking, for the edges of most of the coins are quite regular. The slight difference in the sizes of the flans for the light and the heavy tetrobols indicates that mint officials were able to determine quite accurately the amount of metal necessary for coins weighing within a gram of one another. Where the coins in a comparatively few cases (see pp. 39-40) show very irregular weights, I should prefer to attribute them to carelessness in the selection of flans, rather than to inability to prepare them properly.

The dies and their size and form may be reconstructed from the coins. In Group I (PLATES III-V), both dies are smaller than their flans and considerable care has been taken to center them in most cases. With the beginning of Group II, both anvil and punch dies increase in size, except those for the octadrachms (PLATES VI-IX). Here, the border of the obverse and the corners of the incuse on the reverse are frequently off flan. There is evidence (see below Chapter VI) that in Group II other than Macedonian die-cutters worked in the

mint. It is impossible to do more than suggest that these outsiders were responsible for the change. Whatever its cause, once made the charge was permanent. There is an apparent exception in the case of the heavy tetrobols: these were not struck in Group II, and the few specimens which remain in Group III do not show much increase over those of Group I. However, the heavy tetrobols of Group IV, struck by Perdikkas, show an increase in the size of both dies (see PLATES XIII–XV).¹

Macedonian coins exhibit a phenomenon which, so far as I can ascertain, is not characteristic of other ancient coins and which is to be explained partly by the design and construction of the dies and partly by the size of the dies in relation to the flans. Because of the pressure applied directly to the punch in the ancient method of striking coins, in most issues more punch than anvil dies are necessary. The opposite is true of these Macedonian coins: there are more signs of die damage on the obverse than on the reverse, most often beginning at the edge of the die. The obverse dies are in much higher relief than the reverses, in each denomination; the punch itself was considerably larger than the die contained in it and flat, rather than beveled away from the die.² The actual size of the punch cannot now be discerned, for its edge is not visible on any of the coins catalogued here. In some cases, one can make out the edge of the anvil die, which

¹ Robinson and Clement, *Olynthus Excavations IX, The Chalcidic Mint*, 126, point out the similarity in fabric between the earliest Chalcidic League tetrobols and the Macedonian. Unfortunately, they chose to illustrate that similarity by a comparison of the League coins with light tetrobols from Group II (those with A above or below the horse, my cat. nos. 76–95) and suggested that in spite of the A those coins were struck by Perdikkas. They must, however, be dated some thirty years earlier than the League tetrobols, although their fabric is the same. Their choice of these earlier coins to illustrate the similarity of fabric between Macedonian and Chalcidic highlights the immutability of the fabric of the Macedonian coins from 476/5 until the end of Perdikkas' reign, when he issued some plated coins. In the discussion of Group IV, the reason for the likeness of the early League tetrobols to the Macedonian coins is explained.

² For an illustration of the various types of punch die, see G. F. Hill, *Num. Chron.*, 1922, 1–42, "Ancient Methods of Coining," p. 31, fig. 2 (center).

seems to be very little larger than the border of the design. (See PLATE III, 2, left side, and PLATE VI, 48a, upper left.) These are both octadrachms, which were the only coins not to show an increase in the size of the anvil die. In the other denominations, the anvil die is so much larger than the flan that part of the design is left off. These technical details indicate that the pressure of the blow from the hammer would fall not only on the rather shallow die, but rather on the whole large area of the punch. In the case of the obverse dies, some of the pressure would fall on the die itself, outside the edges of the slightly smaller flan. Since the higher relief of the die rendered it the more fragile originally, direct pressure without the flan to act as cushion would make it suffer damage. This is not to imply that no punch die shows signs of damage; some do so, and that fact has been noted in the catalogue. Several punch dies, notably T P 17, (cf. PLATE IX, 62b and 63a) and H P 26e (cf. PLATE XIV, 216-218) show signs of an original miscutting and of use with more than one anvil die without either repair or damage. The example on PLATE IX, of a goat type reverse, which is in the highest relief of any reverse type, is a good illustration of the salutary effect of the pressure distribution over a punch larger than its die by which the life of these punch dies is prolonged. The following list of known dies shows how constant is the larger number of anvil than punch dies.

	<i>Punch</i>	<i>Anvil</i>
Group I	34	38
Group II	37	50
Group III	17	21
Group IV	<u>77</u>	<u>86</u>
Total:	165	195

When the figures are given by denominations rather than by groups, there is a slight change.

	<i>Punch</i>	<i>Anvil</i>
Octadrachm	21	19
Tetradrachm	24	26
Heavy Tetrobol	50	61
Light tetrobol	65	81
Octobol	5	8
Total:	<u>165</u>	<u>195</u>

From this chart, it will be seen that there are fewer octadrachm obverse dies (the only ones which did not increase in size) and only two more tetradrachm obverse than reverse dies. Since the extant die combinations in these denominations are so few (22 octadrachms and 28 tetradrachms) the evidence from the smaller denominations, of which there are many more die combinations, is more valuable.

The pattern of die sequences makes it possible to draw some conclusions about Macedonian minting practices. In every group, in one or more denominations, three obverse dies are used with one reverse.³ In Group I, this arrangement occurs in the heavy tetrobols; in Group II, in the octobols and both series of light tetrobols; in Group III, in the tetradrachms; in Group IV, in both the light and heavy tetrobols. Without the appearance of this procedure in the case of the tetradrachms in Group III, it would not be possible to generalize; the manner of producing small denominations might well differ from that for large coins. The evidence, however, allows one to conclude that regular mint activity consisted in using three obverse dies, all probably set in one anvil,⁴ with one punch die. The fact that the octadrachms do not survive in sufficient numbers to show this procedure cannot be taken as a sign that it was not used in all denominations; so few octadrachms have survived that it is clear that we

³ It is possible to associate this practice with the fragility of the obverse dies.

⁴ Such a series as nos. 49-51 (PLATE VI) which shows an obverse die, used with three different punches, becoming very damaged before being discarded, may be taken as an indication that the three obverse dies in simultaneous use were sunk in one anvil. As long as the other two obverse dies were in good condition, the unit would be kept in service.

know only a few of their dies.⁵ It is worth noting that the coins from Olynthus which immediately precede the League coinage, as well as the League tetradrachms and tetrobols, also show this use of one punch with three anvil dies.

Elaborations of this pattern occur at two points in the series of coins, once under Alexander, in Group II, where there are other signs of increased mint activity and once under Perdikkas, in Group IV, when the mint output is quadrupled. In Group II, the A series of light tetrobols (PLATE VIII, 76-95) shows the use of one punch die with five, and another with six obverse dies. In both cases, some of the obverses are used with other punch dies; probably production was doubled by the use of twice the normal number of obverse dies. In Group IV, among the heavy tetrobols, there is a confusing pattern of seven punch dies in use at once, with at least eighteen obverses. Additional charts following the diagrams of die sequences at the end of this chapter show their ramifications. They are discussed in greater detail in Chapter VIII.

The use of three punch dies with one obverse does not appear before Group II, where it occurs once in the octadrachms, nos. 49-51, PLATE VI (the obverse die shows hard use) and twice in the H series of light tetrobols, nos. 99-101 and 103-105, PLATE IX. In Group III, it occurs once in the heavy tetrobols, nos. 118-120; and in Group IV, once in the first series of light tetrobols, nos. 138-140, PLATE XI, and seven times in the heavy tetrobols, nos. 176-178, 186-188, 189-191, 204-206, 221-226, 228-230, PLATES XIII-XV. This is not the normal replacement of worn dies, as would be the case if one obverse die were used with two reverses, or vice versa. The absence of this pattern from Group I may be fortuitous, but its use may

⁵ The two most recently appearing Alexander octadrachms, from a hoard found in Afghanistan and published in *Mémoires de la Délégation Archéologique Française in Afghanistan*, XIV, add to the list at least one new obverse die, that of the coin in the Lambe Collection (no. 52, below). The other coin, which I understand is in the Pozzi Collection, I have been unable to see. The Lambe coin shows the use of the punch die P 13 (the one used with the worn obverse die mentioned in the preceding note O A 10, no. 51) with a hitherto unknown obverse die.

rather be associated with the need for increased mint output. Group II shows various signs of abnormal mint activity. In Group III, the striking of heavy tetrobols is recommenced after a lapse of about fifteen years; a need may have been felt for more than normal quantities of them. In the light tetrobols of Group IV, the pattern appears at a time when that denomination was the sole product of the Macedonian mint. Of the seven instances of it among the heavy tetrobols of the same group, three are near its inception, when that denomination is struck again after a period of about twelve years; four are during the period when the mint was issuing great numbers of these coins. In the last series of Perdikkas' coins, there is no sign of it. Given the normal mint activity of three obverse dies with one punch, production would have been tripled when three punch dies were used simultaneously; presumably, that would indicate the use of nine obverses, although there is as yet no concrete evidence for it. The heavy striking of light tetrobols in Group II, when five or six obverse dies were used with one punch, and of heavy tetrobols in Group IV, when seven punches were used at once with at least eighteen obverse dies, points to very extraordinary demands for coinage at those times. In each case, the political situation will be seen to afford a reason.

2. EXPLANATION OF CATALOGUE TERMS.

A. Numbering.

The following system of numbering dies and their combinations has been adopted for the catalogue. On the plates, the catalogue numbers of the die combinations have been used for easier identification. Specimens marked * in the catalogue are illustrated. Die combinations have been numbered consecutively throughout the coinage of both kings. Thus, the first die combination of Alexander's coins is no. 1, the first of Perdikkas no. 131. The fractional issues have not been given catalogue numbers, although they have been included

at the end of the Group with which they are to be associated, because the number of specimens of each type variety is very small and it is well-nigh impossible to determine the denomination of the coin, in most cases. The difference in weight between fractions associated with the tetradrachms and those with the octadrachms is so slight to begin with that nothing is to be gained by dissecting the very irregular fractional issues.

Instead of continuous die numbers from the first octadrachm to the last tetrobol, each denomination has its own continuous die numbers throughout the coinage of both kings. The preceding letter indicates the denomination, as:

- OP 1 = first octadrachm punch die
- OA 1 = first octadrachm anvil die
- TP 1 = first tetradrachm punch die
- TA 1 = first tetradrachm anvil die
- HP 1 = first heavy tetrobol punch die
- HA 1 = first heavy tetrobol anvil die
- LP 1 = first light tetrobol punch die
- LA 1 = first light tetrobol anvil die
- SP 1 = first octobol punch die (special issue of Group II)
- SA 1 = first octobol anvil die

This system seems better suited to the coins, since thereby the proportionate number of dies in the various denominations is readily apparent. It also seems better to continue consecutively with this numbering system in the catalogue of the coins of Perdikkas, since recommencing with HP 1 and HA 1 etc., might cause confusion in discussing dies.

B. Key to Types

In order to avoid useless repetition in the catalogue, the basic types for obverse and reverse are described here. Since they are constant for all four groups only the identifying letters will appear in the catalogue, single for obverses and double for reverses, with individual

5*

differences of style, symbols and letter forms specified. The fact that there are only three obverse and four reverse types should make it simple to keep their identifying letters in mind. In Group IV, which contains a great many die combinations and a number of symbols, the system has been elaborated to include the major variants for obverse and reverse types in both denominations. The key for Group IV immediately precedes its catalogue.

I. Obverse

BASIC TYPE: A: Mounted warrior-hunter, holding reins and two spears, wearing chlamys and petasus; on exergual line.

A I: A with dotted circular border.

A II: A with linear circle.

a: spears hidden by horse.

b: spears across body of horse.

This type is used for octadrachms of Groups I and III, tetradrachms of Groups I, II, III, and for heavy tetrobols of Groups I, III, IV.

BASIC TYPE: B: Horse and attendant r., attendant always behind horse, holding reins and two spears, wearing chlamys and petasus; on exergual line.

B I: dotted circular border.

B II: no circular border.

This type is used for octadrachms and octobols in Group II.

BASIC TYPE: C: Horse unattended r., unless otherwise specified.

C I: in dotted circular border.

C II: in linear circle.

This type is used for all light tetrobols.

II. Reverse

BASIC TYPE: AA: AΛE|ΞA|NΔ|PO in incuse around quadripartite linear square.

This type is used for octadrachms and octobols.

BASIC TYPE: BB: Forepart of lion in incuse square, r., unless otherwise specified.

BB I: head and one paw.

BB II: forepart and one paw.

BB III: forepart and two paws.

This type is used only for heavy tetrobols.

BASIC TYPE: CC: Head or forepart of goat in incuse square.

CC I: head only.

CC II: forepart, r.

CC III: forepart r., with head reverted.

a. dotted square border.

b. linear square border.

This type is used for tetradrachms and light tetrobols.

BASIC TYPE: DD: Crested helmet in incuse square.

DD I: nose, neck and cheek pieces; eye often indicated.

DD II: cheek and neck pieces only.

This type appears on tetradrachms and light tetrobols.

3. DIE SEQUENCES.

GROUP I

Octadrachms

P 1	P 2	P 3	P 4	P 5	P 6
1	2	3	4	5	6
A 1	A 1	A 2	A 3	A 4	A 5
└───┘					

Tetradrachms (helmet reverse type)

P 1	P 2	P 3	P 4	P 5	P 6
8	9	10	11	12	13
A 1	A 2	A 3	A 4	A 5	A 5

Tetradrachms (goat's head reverse type)

P 7	P 8	P 9	P 9a	P 10	P 11	P 12	P 13
14	15	16	17	18	19	20	21
A 6	A 7	A 8	A 8	A 9	A 10	A 11	A 12

Heavy Tetrobols

P 1	P 2	P 2	P 2	P 3	P 4	P 4	P 5	P 6	P 6	P 6
23	24	25	26	27	28	29	30	31	32	33
A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11

Light Tetrobols (goat's head reverse type)

P 1
34
A 1

Light Tetrobols (helmet reverse type)

P 2	P 2	P 3	P 4	P 5	P 5	P 6	P 7	P 7	P 8
35	36	37	38	39	40	41	42	43	44
A 2	A 3	A 4	A 5	A 5	A 6	A 7	A 8	A 9	A 10

GROUP II

Octadrachms

P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 13	P 14	P 15
45	46	47	48	49	50	51	52	53	54
A 6	A 7	A 8	A 9	A 10	A 10	A 10	A 11	A 12	A 13

P 16	P 17	P 18
55	56	57
A 14	A 14	A 15

Tetradrachms

P 14	P 15	P 15	P 16	P 17	P 17	P 18	P 19
58	59	60	61	62	63	64	65
A 13	A 14	A 15	A 16	A 17	A 18	A 19	A 20

Octobols

P 1	P 1	P 2	P 3	P 3	P 3	P 4	P 4	P 4	P 5
66	67	68	69	70	71	72	73	74	75
A 1	A 2	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 8

Light Tetrobols, A series

P 9	P 9	P 9	P 10	P 10	P 10	P 10	P 10	P 11	P 11
76	77	78	79	80	81	82	83	84	85
A 11	A 12	A 13	A 13	A 14	A 15	A 16	A 17	A 17	A 18

P 12	P 13	P 13	P 13	P 14	P 14	P 14	P 14	P 14	P 14
86	87	88	89	90	91	92	93	94	95
A 19	A 20	A 21	A 22	A 22	A 20	A 23	A 24	A 25	A 26

Light Tetrobols, H series

P 15	P 16	P 17	P 17	P 18	P 19	P 19	P 19	P 20
96	97	98	99	100	101	102	103	104
A 27	A 28	A 29	A 30	A 30	A 30	A 31	A 32	A 32

P 21	P 21	P 22
105	106	107
A 32	A 33	A 34

GROUP III

Octadrachms

P 19	P 20	P 20	P 21
108	109	110	111
A 16	A 17	A 18	A 19

Tetradrachms

P 20	P 21	P 21	P 21	P 22	P 23
112	113	114	115	116	117
A 21	A 21	A 22	A 23	A 24	A 25

Heavy Tetrobols

P 7	P 8	P 9	P 9
118	119	120	121
A 12	A 12	A 12	A 13

Light Tetrobols

P 23	P 23	P 24	P 25	P 26	P 27	P 27	P 28	P 29
122	123	124	125	126	127	128	129	130
A 35	A 36	A 37	A 38	A 39	A 40	A 41	A 42	A 43

GROUP IV LIGHT TETROBOLS*

(1)	P 30	P 31	P 31	P 32	P 33	P 34	P 35	P 36	P 37	P 38
	131	132	133	134	135	136	137	138	139	140
	A 44	A 44	A 45	A 46	A 47	A 48	A 48	A 49	A 49	A 49

	P 39	P 40	P 41	P 41	P 42	P 43	P 43	(2)	P 44	P 45	P 46
	141	142	143	144	145	146	147		148	149	150
	A 50	A 51	A 52	A 53	A 54	A 55	A 56		A 56	A 57	A 58

P 47	P 48	P 49	P 50	P 51	P 52	P 53	P 54	P 55	P 56
151	152	153	154	155	156	157	158	159	160
A 59	A 60	A 61	A 62	A 63	A 64	A 65	A 66	A 67	A 68

(3)	P 57	P 58	P 58	P 59	P 60	P 60	P 60	P 61	P 62
	161	162	163	164	165	166	167	168	169
	A 69	A 70	A 71	A 72	A 73	A 74	A 75	A 76	A 77

(4)	P 63	P 63	P 64	P 64	P 64	P 65
	170	171	172	173	174	175
	A 78	A 79	A 79	A 78	A 80	A 81

* The numbers in parentheses above the line refer to the Series within the group.

GROUP IV HEAVY TETROBOLS

(1)

P 10	P 11	P 12	P 13	P 14	P 14	P 14	P 15	P 16	P 17
176	177	178	179	180	181	182	183	184	185
A 14	A 14	A 14	A 15	A 16	A 17	A 18	A 19	A 20	A 20

(2)

P 17	P 18	P 19	P 19	P 18	P 20	P 21	P 22	P 23	P 24a
186	187	188	189	190	191	192	193	194	195
A 21	A 21	A 21	A 22	A 22	A 22	A 23	A 24	A 25	A 26a

P 24a	P 24a	P 24b	P 24b	P 24c	P 24c	P 24c	P 24d	P 24d
196	197	198	199	200	201	202	203	204
A 26b	A 27a	A 26c	A 27b	A 26d	A 27c	A 27d	A 26e	A 27e

P 25a	P 25b	P 25b	P 25c	P 24e	P 24f	P 24f	P 24e	P 24e
205	206	207	208	209	210	211	212	213
A 27e	A 27e	A 28a	A 28a	A 26f	A 27f	A 26f	A 27f	A 27g

P 25d	P 25d	P 24e	P 25e	P 25e	P 25e	P 24g	P 24g	P 25f
214	215	216	217	218	219	220	221	222
A 27g	A 28b	A 27h	A 27h	A 28c	A 28d	A 26g	A 27i	A 28e

P 25f	P 25g	P 26a	P 26b	P 24g	P 24g	P 25g	P 25h	P 25g
223	224	225	226	227	228	229	230	231
A 27i	A 27i	A 28e	A 28e	A 26h	A 27j	A 27j	A 27j	A 28f

(3)									
P 25h	P 25h	P 27	P 28	P 28	P 29	P 29	P 30	P 31	P 32
232	233	234	235	236	237	238	239	240	241
A 28f	A 28g	A 29	A 30	A 31	A 32	A 33	A 34	A 35	A 36
P 33	P 34	P 35	P 36						
242	243	244	245						
A 37	A 38	A 38	A 39						

Details of die sequence in Group IV heavy tetrobols, Series 2, nos. 195-233.

Beginning with no. 195 there is a period of abnormal mint activity, marked by a change of obverse type. The walking horse is supplanted by a prancing horse. Eight A dies of the walking horse type are used with seven P dies which are also used with ten prancing horse A dies. These latter A dies are also used with six other P dies, which are then used with other A dies of the prancing horse type. The dies involved have been numbered and lettered:

P 24, followed by a letter (a-g), is a die used with both styles of horse.

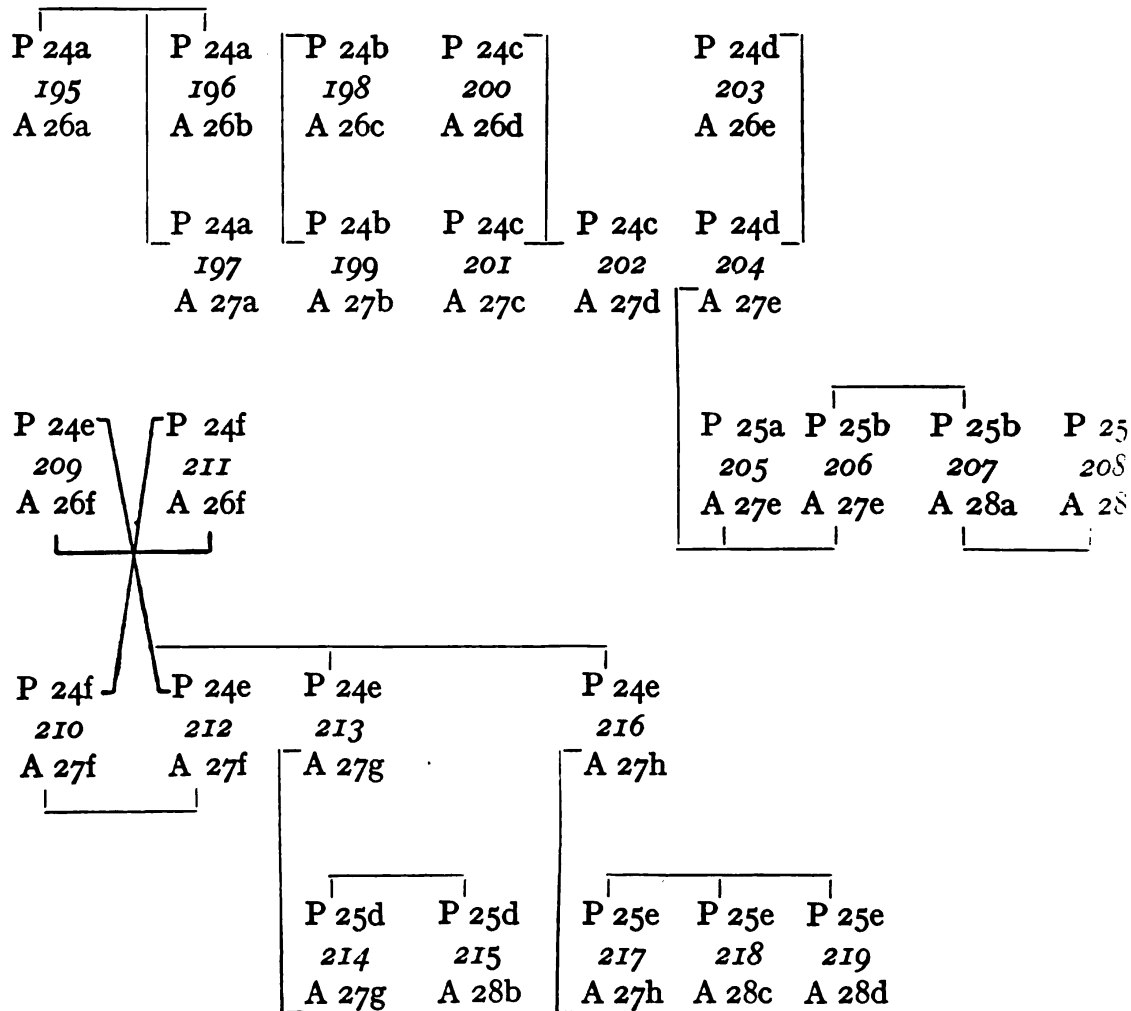
A 26, followed by a letter (a-h), is a walking horse A die used with a P 24.

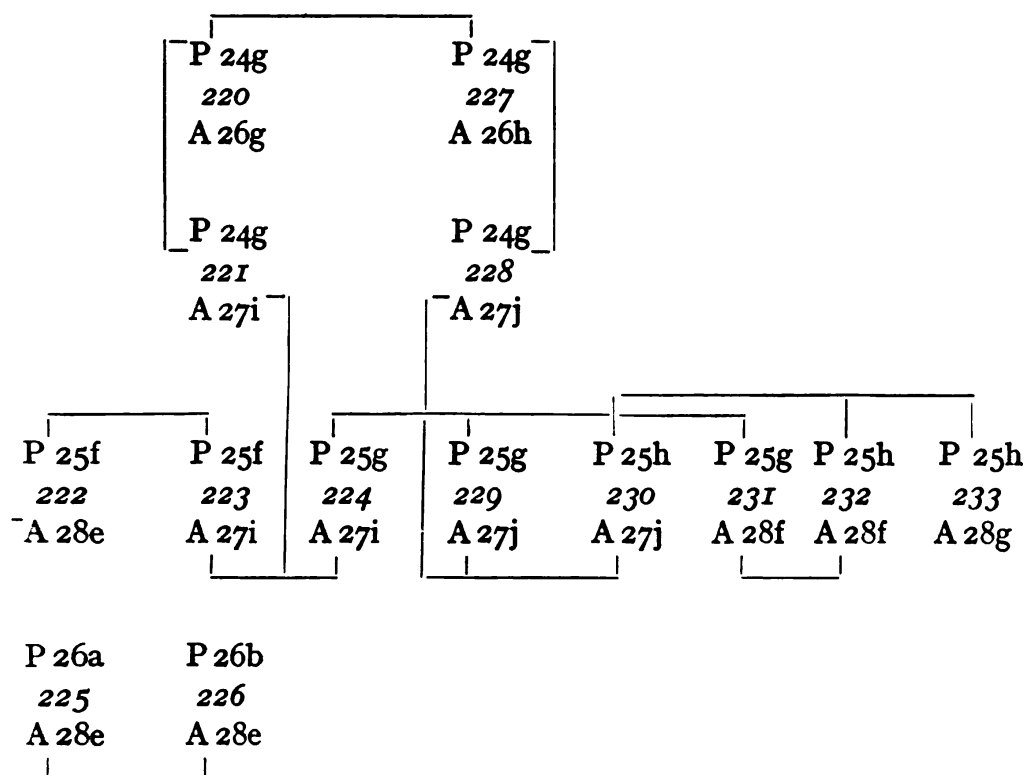
A 27, followed by a letter (a-j), is a prancing horse A die used with a P 24, and in most cases with a P 25 (plus letter, a-h).

A 28, followed by a letter (a-g) is the next series of prancing horse A dies, used with P 25 (a-h) and with P 26 (a-b).

The combinations with P 24 must be regarded as simultaneous, with an abrupt abandonment of the walking horse dies, since none of those dies (A 26 + letter) is worn. With the use of A 27 (a-j), more than the seven P dies used at the time of the shift are involved. The following charts show the interlocking dies at this point.

PATTERN OF DIE SEQUENCES, SERIES 2, HEAVY TETROBOLS





CHAPTER V

GROUP I, 480/79-477/6

I. CATALOGUE

Octadrachms, PLATE III.

Obverse A I b: Mounted warrior-hunter, wearing chlamys and petasus, r., 2 spears in r.h., reins in l.h., in dotted circular border.

A I a: Same type with spears in l.h., reins in r.h.

Reverse AA : ΑΛΕ/ΞΑ/ΝΔ/ΡΟ in incuse around four-part linear square.

- | | | | |
|------|----|--|-------|
| OP 1 | 1. | Obv. A I b; tail cuts border; spears parallel, no exergual line. | |
| A 1 | | Rev. AA; linear square not well centered; letters crudely cut. | |
| | | *a. Paris (<i>BT</i> , I, 2, 1517) | 28.60 |
| | | Deep slash below horse; die slipping visible at bottom on obverse. | |
| OP 2 | 2. | Obv. A I b; die of no. 1. | |
| A 1 | | Rev. AA; condition of coin too poor to allow die identification. | |
| | | *a. Brussels | |
| | | Die slipping visible on upper left of obverse; die damaged at area of r. elbow, spears, and horse's back. | |
| OP 3 | 3. | Obv. A I b; spears at angle; double exergual line. | |
| A 2 | | Rev. AA; Δ at angle across corner (cf. <i>Acanthus</i> R106); crossbar of linear square extends to edge of incuse at left. | |
| | | *a. Brussels (slashed) | |
| OP 4 | 4. | Obv. A I b; pose rigid; spears parallel under arm which is held close to body; enormous frog below horse. | |
| A 3 | | Rev. AA; first A tilted, letters small. | |
| | | *a. <i>Hunter Coll.</i> I, p. 283, 2 | 26.44 |
| | | Large piece cut off accounts for low weight. | |
| OP 5 | 5. | Obv. A I b; caduceus' head on horse's rump; hound leaping up before horse; dotted exergual line. | |
| A 4 | | Rev. AA; A, A, Δ tilted at corners; letters large and inner square granulated. | |
| | | *a. <i>Gillet Coll.</i> | 28.19 |
| | | <i>ex Jameson Coll.</i> 907; <i>ex Warren Coll.</i> 122. | |

- OP 6 6. Obv. A I a; spears at angle; double exergual line.
 A 5 Rev. AA; inner square slightly granulated.
 *a. A. M. Newell Coll. 27.84
ex Hess, 1929, 209; *ex* Egger, 1912, 541; *ex* Hirsch, 1908,
 414.
7. *Copenhagen, SNG, 493, wt. 28.64, is clearly a forgery in spite of its acceptance by the Copenhagen authorities. Gaebler (*AMNG* III, 2, p. 215, 69) is correct in his condemnation of the piece. A comparison between it and the genuine octadrachms on PLATE III shows readily how "out of tune" it is with the others. The conscious archaizing of the musculature and eye is apparent; the die cutter used for the mounted man the frontal torso of the attendant on the Bisaltian coins (cf. PLATE II, 1-3). He erred in mixing two types. The reverse is betrayed by the form and arrangement of the letters, as well as by the kneeling goat which completely lacks the rude vigor of the goats on the staters. Traces of an earlier striking are faintly visible around the edges of the obverse, in the cast; an examination of the coin itself would be necessary to determine whether they actually are what they appear to be. It may be that the flan is ancient.
- 7a. A coin in Paris (*BT*, IV, 2, 786; pl. CCCIII, 1) wt. 26.35, obverse an imitation of no. 5, with attenuated dog and spears reversed, unintelligibly draped garment; reverse with sunken, granulated four-part linear square in incuse, quite unlike the regular type, must be classed as a forgery.

Tetradrachms, PLATE IV

- Obverse A I: Mounted warrior-hunter, holding reins and two spears, wearing chlamys and petasus, in dotted circular border.
 A I a: spears in back of horse.
 A I b: spears across body of horse.
- Reverse CC I: Head of goat in incuse square.
 CC I a: in dotted square border.
 CC I b: in linear square border.
 DD I: Crested helmet with nose, neck, and cheek pieces, in incuse square.

- TP 1 8. Obv. A I a, right, on exergual line.
 A 1 Rev. DD I, right, in dotted square.
 *a. Copenhagen, SNG, 484 12.60
ex Wellenheim, 2396 (G. *Falsch.* p. 203, 11; Pl. III, 3).
 Damage to A die at rider's back and horse's body.
- TP 2 9. Obv. A I a, right, on exergual line.
 A 2 Rev. DD I, right, in crooked dotted square.
 a. Ratto, 1911, 251 14.97
ex Sotheby, 1909, 102; *ex* Hirsch (Rhousopoulos) 1905,
 1041 (G. *Falsch.* p. 203, 12b; Pl. III, 4).
 Incrustation on both sides may account for abnormally
 high weight.
- TP 3 10. Obv. A I a, right, on double exergual line.
 A 3 Rev. DD I, right, in dotted square.
 *a. McClean Coll. II, 3273 12.21
ex Hirsch (Rhousopoulos) 1905, 1042 (G. *Falsch.* p. 203,
 12a; Pl. III, 4).
- TP 4 11. Obv. A I b, right, on exergual line.
 A 4 Rev. DD I, right, in granulated incuse square.
 *a. Weber Coll. 2010 12.80
ex Lambros, 1895 (G. *Falsch.* p. 202, 8; Pl. II, 17).
- TP 5 12. Obv. A I b, right, on exergual line.
 A 5 Rev. DD I, right, in linear square within granulated incuse
 square.
 *a. ANS-ETN 12.83
ex Cahn, 1928, 383
 b. Paris 10.80
de Luynes, 1926, 1577 (G. *Falsch.* p. 202, 9; Pl. II, 18).
 A die damaged at l. forefoot and in field below horse's
 head. *b* appears to have been retouched after striking,
 which may account for weight.
- TP 6 13. Obv. A I b; die of no. 12.
 A 5 Rev. DD I, right, in linear square.
 a. Philippopel 11.38
 b. Naville, 1931, 826 12.58
ex Hirsch (Rhousopoulos) 1905, 1040 (G. *Falsch.* p. 203,
 10; Pl. III, 1, 2; he does not list *c*).
 c. Empedocles Coll. 12.67
 A die more damaged at forefoot and also at tail.
- TP 7 14. Obv. A I a, left, on dotted exergual line.
 A 6 Rev. CC I a, right, edge of neck dotted, dotted square.
 a. Hunter Coll. I, p. 284, 1 12.52
 *b. Sotheby, 1909, 419 13.12
ex Hirsch (Rhousopoulos) 1905, 1037
 c. Larosière Coll. 11.89

Group I

81

ex de Nanteuil, 1925, 788; *ex Weber Coll.* 2020, *ex Naville*, 1922, 446; *ex Sotheby*, 1894, 103; *ex Hoffman*, 1882, 779 (G. *Falsch.* pp. 204-5, 14, a, b, c; Pl. III, 9).
P die broken at horn and dotted square.

- TP 8 15. Obv. A I a, left, on dotted exergual line.
A 7 Rev. CC I b, left, edge curved, but not dotted; behind head, reversed caduceus; below chin, ivy or vine leaf.
*a. Vienna 13.07
ex Egger, 1912, 545; *ex Egger*, 1906, 238; *ex Hirsch* (Rhousopoulos) 1905, 1038.
b. Berlin (Löbbecke) 13.13
(G. *Falsch.* p. 205, 17; Pl. III, 12 b; 13 a).
A die break at r. foreleg; b shows P die wear at lower r. linear square and incuse.
- TP 9 16. Obv. A I a, left, on dotted exergual line.
A 8 Rev. CC I b, right.
*a. Dewing Coll. 13.15
ex Kellad.
- TP 9a 17. Obv. A I a (die of no. 16).
A 8 Rev. CC I b, right, with upright caduceus at left.
(Die of no. 16, with caduceus added.)
*a. Paris, pierced 13.10
ex de Luynes, 1926, 1576
b. Vienna 11.35
ex Welzl, 1844, 2405
c. Hamburger, 1930, 17, pierced 11.35
d. London, (*BMC Mac.*, p. 158, 1), pierced 12.44
e. Naville, 1923, 681 13.19
ex Hirsch, 1909, 463; *ex Hirsch* (Rhousopoulos) 1905, 1036. (G. *Falsch.* p. 205, 15; Pl. III, 10.)
P die shows increasing wear at edge of incuse until it meets linear square.
- TP 10 18. Obv. A I a, left, on dotted exergual line.
A 9 Rev. CC I b, left, reversed caduceus at right.
a. *McClellan Coll.* II, 3276 12.61
(G. *Falsch.* p. 205, 19; Pl. IV, 3.)
A die broken at hind feet and tail.
- TP 11 19. Obv. A I a, left, in poor style, spears not parallel, exergual
A 10 line not dotted.
Rev. CC I b, left, reversed caduceus at right.
a. *Weber Coll.* 2018 12.68
ex Sambon, 1899, 265 (G. *Falsch.* p. 206, 20; Pl. IV, 4).
Obv. shows traces of die slipping.
- TP 12 20. Obv. A I a, left, on dotted exergual line.
A 11 Rev. CC I b, left.
a. Paris (*BT*, IV, 2, 808) 12.70

- b. Munich 13.20
(*G. Falsch.* p. 205, 18; Pl. IV, 1 b, 2 a).
A die broken at horse's tail.
- TP 13 21. Obv. A I a, right, dotted exergual line.
A 12 Rev. CC I b, right, reversed caduceus at left.
a. Boston, P 144 13.33
*b. Copenhagen, SNG, 492 13.24
ex Hirsch, 1913, 628; *ex* Hirsch, 1909, 464
(*G. Falsch.* p. 204, 13; Pl. III, 8 b; he does not list a).
A die broken at horse's head and tail.
22. (a and b) Two tetradrachms must be put on the doubtful list.
The one (*G. Falsch.* p. 205, 16; Pl. III, 11) is a Paris specimen with rider left and goat's head right, wt. 10.30; the other is in the Empedocles Collection, same types, wt. 10.70. The reverse die is the same in both cases, but the obverses are different. The Empedocles coin is certainly plated; the Paris coin, which is not listed by Babelon, looks as though it may be, though Gaebler does not say so. The weight would make it probable. The existence of plated coins of Perdikkas from official dies is known (see Group IV, light tetrobols, Series 4). In their case it has been possible to establish die identity with unplated coins; these tetradrachms are unique, although they are very like known dies. If these coins are forgeries, they are probably ancient ones.

Heavy Tetrobols, PLATE V.

- Obverse A I a: Mounted warrior-hunter, wearing chlamys and petasus, r., 2 spears in r.h., reins in l.h., in dotted circular border.
A I b: Same type with spears in l.h., reins in r.h.
- Reverse BB I: Head and one paw of lion r., in incuse square.
BB II: Forepart and one paw of lion r., in incuse square.
- HP 1 23. Obv. A I a.
A 1 Rev. BB I, in linear square around which traces of letters, poorly cut and very small; head too large for space.
*a. Boston, R 620 2.49
ex Warren Coll.
- HP 2 24. Obv. A I b.
A 2 Rev. BB I, in linear square, around which ΑΛΕΞΑΝΔΟΟ (*sic*)
*a. SNG, Lockett Coll. 3, 1382 2.20
ex Naville, 1923, 682

Group I

83

- HP 2 25. Obv. A I a, spears at an angle.
 A 3 Rev. BB I; die of no. 24.
 a. Schulman, 1927, 90 2.10
ex Leonardos
 b. Paris (*BT*, I, 2, 1537) pierced 2.24
 c. Berlin, pierced
 *d. Berlin (von Sallet, *ZfN*, III, 52) 2.04
 P die shows wear at lower r., paw and linear square,
 beginning at b.
- HP 2 26. Obv. A I a.
 A 4 Rev. BB I; die of no. 24.
 *a. London 2.12
- HP 3 27. Obv. A I b.
 A 5 Rev. BB I.
 *a. Empedocles Coll. 2.10
 b. Naville, 1925, 421 2.08
- HP 4 28. Obv. A I b.
 A 6 Rev. BB II.
 *a. Hess, 1926, 165 2.45
- HP 4 29. Obv. A I c, dotted exergual line.
 A 7 Rev. BB II; die of no. 28.
 *a. Hirsch (Rhousopoulos), 1905, 1048 2.53
 b. Cahn, 1928, 386 2.46
- HP 5 30. Obv. A I a, dotted exergual line.
 A 8 Rev. BB II.
 *a. London. 2.35
- HP 6 31. Obv. A I a.
 A 9 Rev. BB II, edge a row of dots.
 *a. ANS-ETN 2.29
 b. London 2.37
 P die damaged at top.
- HP 6 32. Obv. A I a, dotted exergual line, spears crossed.
 A 10 Rev. BB II; die of no. 31.
 a. Athens (slightly off flan r.) 2.15
 *b. Cahn, 1933, 235 2.44
ex Rosenberg, 1932, 311; *ex* Hamburger, 1930, 21.
 P die shows further damage, break at r.
- HP 6 33. Obv. A I a, dotted exergual line.
 A 11 Rev. BB II; die of no. 31.
 a. Cambridge *SNG*, IV, 3, 2002 2.21
 b. Boston, P 143 2.19
ex Warren, 1900
 *c. Berlin (Löbbecke) 2.33
 (G. *AMNG*, III, 2, p. 152, 27)
 d. Yale Coll. 2.28

6*

Light Tetrobols, PLATE V.

Obverse C I: Horse, unattended, r., on dotted exergual line, in dotted circle.

Reverse CC I: Goat's head r., in linear square within incuse square.

DD I: Crested helmet with nose, neck and cheek pieces, in incuse square.

- LP 1 34. Obv. C I, bridled.
 A 1 Rev. CC I.
 a. Berlin (*B.B.* II, p. 180, 112) 1.92
 *b. Berlin, Imhoof, (*G. AMNG*, III, 2, p. 151, 25) 2.06
- LP 2 35. Obv. C I, bridled.
 A 2 Rev. DD I, r., in dotted square.
 *a. Copenhagen, *SNG*, 485 2.05
 ex Wellenheim, 2389
- LP 2 36. Obv. C I, bridled.
 A 3 Rev. DD I; die of no. 35.
 a. Berlin (*B.B.* II, p. 179, 108) 2.66
 b. Berlin (*G. Falsch.* p. 204, C; Pl. III, 7) 1.92
- LP 3 37. Obv. C I, bridled.
 A 4 Rev. DD I, l., in linear square.
 a. Windisch Grätz, Athens 1.98
- LP 4 38. Obv. C I, unbridled; ΛΑ in field above.
 A 5 Rev. DD I, r., in linear square.
 a. Berlin (*B.B.* II, p. 182, 5) pierced 2.00
 b. *Weber Coll.* 2013, pierced 2.05
 ex Rhousopoulos, 1897
 c. Paris (*BT*, I, 2, 1524) 2.06
 *d. Berlin (*B.B.* II, p. 183, 6) 1.83
 e. Mavrogordato Coll. (*HPM*, p. 23, 5a) 2.32
 A die damaged between letters and horse's back; P die broken in upper l. corner and increasingly worn between incuse and linear square.
- LP 5 39. Obv. C I; die of no. 38.
 A 5 Rev. DD I, l., in linear square.
 *a. London 1.93
 A die damage no greater.
- LP 5 40. Obv. C I, unbridled.
 A 6 Rev. DD I; die of no. 39.
 a. Empedocles Coll. 2.12

Group I

85

- | | | |
|------|--|------|
| | b. Helbing, 1930, 177 | 1.95 |
| | ex Naville, 1928, 455 | |
| | *c. London (<i>BMC Mac.</i> , p. 159, 4) | 1.93 |
| LP 6 | 41. Obv. C I, unbridled. | |
| A 7 | Rev. DD I, r.; cheek piece overlaps linear square. | |
| | *a. London (<i>BMC Mac.</i> p. 159, 5) | 2.00 |
| | b. Cambridge, <i>SNG</i> , IV, 3, 2008 | 1.63 |
| | c. May Coll. | 1.68 |
| | A die broken at l. hind foot; P die edges broken down. | |
| LP 7 | 42. Obv. C I, unbridled. | |
| A 8 | Rev. DD I, r., in linear square. | |
| | *a. Dewing Coll. | 2.11 |
| | ex Robinson, VIII, 1941; ex Hoffman, 1909 | |
| | b. Cahn, 1952. | |
| LP 7 | 43. Obv. C I, unbridled. | |
| A 9 | Rev. DD I; die of no. 42. | |
| | *a. ANS-ETN | 2.09 |
| | P die worn at top edge of incuse. | |
| LP 8 | 44. Obv. C I, unbridled. | |
| A 10 | Rev. DD I, r., in linear square. | |
| | *a. May Coll. | 2.39 |
| | P die badly broken. | |

2. CHRONOLOGY AND SIGNIFICANCE

There is no reason for questioning the commonly accepted date,¹ 480/79, for the beginning of Alexander's epigraphically or otherwise identifiable coinage. Whether the coins appeared first after Salamis or after Plataea, it is impossible to determine. The sophisticated complexity of Alexander's issues can only be the result of a carefully thought-out plan; his use of types and denominations shows clearly that neither the early staters of Aegae, nor his own octadrachms, tetradrachms and fractional issues in the monetary alliance (see Chapter III) were adequate for his purposes. In this first national coinage, three aims were embodied: (1) it was to be readily exchangeable with the most influential currencies of the Aegean area (see Chapter II); (2) it was to be readily recognized as Macedonian; (3) it was to be unmistakably a regal issue. ✓

¹ Cf. Head, *HN*², p. 218; Babelon, *Traité*, I, 2, p. 1080; Gardner, *Hist. of Ancient Coinage*, pp. 194-195.

The coins themselves fall naturally into three groups, as an examination of the octadrachms on PLATES III, VI, and X will make clear. The smaller coins follow the style of the larger ones. Since there are no magistrates' symbols, or other means of ascertaining dates for these groups, the dates given below are not absolute in all cases. Historical lacunae make it necessary to rely on the coins themselves for information. The date of the end of Group I has been determined by the content of Group II, whose commencement is shown clearly by the coins to be 476/5. The date of the end of Group III is, of course, coincidental with the death of Alexander. This is usually given² as 454, but the coins indicate that he ruled some years longer, probably to 451. These then are the suggested dates for the coins of Alexander I:

Group I: 480/79–477/6

Group II: 476/5–ca. 460

Group III: ca. 460–451

Group I consists of four major denominations, two large and two small, in addition to fractional pieces whose weights are difficult to classify. The stater (9.82), with the obverse canting type of a goat, is no longer in use; its weight was unsuited to that of other currencies in the Aegean area. The coins struck are octadrachms, with a derived tetrobol, and tetradrachms, with a derived tetrobol. The weight norms for these denominations are:

Octadrachm:	29.46
Tetradrachm:	13.08
Heavy tetrobol:	2.45
Light tetrobol:	2.18

The various ways in which such coins could be integrated into other currencies have been discussed in Chapter II. The passing of the stater, the original one-hundredth division of the Babylonian common

² Cf. Beloch, *Griechische Geschichte*, III, 2², pp. 49 ff, where the variant ancient accounts which are the sources of our knowledge of the regnal years of the kings of Macedonia are brought together.

mina on which all the Thraco-Macedonian tribal coinage was based, has been the source of the difficulty of classifying the weights of the fifth century coinages in the area. It had served its term of usefulness and was no longer to have a part in ancient commerce.

Before discussing the types and their implications, it must be pointed out that the mass condemnation of the tetradrachms of this and subsequent groups by Gaebler³ cannot be endorsed. It is unnecessary to refute his arguments one by one. His misunderstanding of their weight has already been mentioned. His pronouncements on style and technique are unjustified on comparison of these coins with others in Group I, as well as with those tetradrachms immediately preceding it (PLATE II, 7-9); his remarks on their color are not corroborated by such coins as I have been able to see. His theory that the reverse type of two of the light tetrobols (nos. 34 and 35, PLATE V) provided a modern forger with models is a misinterpretation. The same Macedonian(s) did the work on all of these coins. A great many of these coins were collected by Rhousopoulos,⁴ some in a hoard or hoards, under circumstances which leave their authenticity unquestionable. In the catalogue these coins have been indicated by the insertion of Rhousopoulos' name as their source. Likewise the coins condemned by Gaebler have been indicated in the catalogue. No. 22 (a and b) lists two possible forgeries, one known to Gaebler; the defects of these coins have been discussed at their catalogue entry. Since Gaebler uses the same type of argument, equally unwisely, in his "exposure" of tetradrachms in Groups II and III, no further reference to his conclusions is necessary.

While the denominations and the main outlines of the typological content of the coins had been determined upon at the time that the coins of Group I appeared, the actual type distribution among the denominations betrays some indecision at first. Combinations are tried out and discarded for others which, at the end of Group I, become

³ Gaebler, "Fälschungen Makedonischer Münzen," I, in *Sitzungsberichten d. Preuss. Akad. d. Wiss. Phil.-Hist. Kl.* XII (1931), pp. 1-23 (Hereafter, *G. Fälsch.*)

⁴ I am indebted to Dr. Jacob Hirsch of Geneva and New York for this information.

constant for the denominations and remain unchanged thereafter. The metrological relation of the heavy tetrobols to the octadrachms and of the light tetrobols to the tetradrachms is clearly marked by stylistic details. The obverse type of all denominations is from the Ares-type of the monetary alliance: horse, horse and rider, horse and attendant. In Group I all obverse borders are dotted; subsequently, the dotted circle is retained on the octadrachms and heavy tetrobols, while on the other two denominations it gives way to a linear circle. These latter show on both obverse and reverse an uncertainty of orientation which persists even on the coins of Perdikkas; the others do not.

The reverses show plainly the conscious association of types with denominations. The octadrachms always have the king's name around a four-part linear square in the incuse. The heavy tetrobols, which introduced the lion type,⁵ attempted to carry the inscription of the octadrachms also. Fortunately, this attempt was soon abandoned (two dies are known PLATE V, nos. 23–26), for of all the poorly executed lions of Group I, these are the worst. The design is small; the die-cutters were working with an unfamiliar type; the space available for the inscription was microscopic. The letters themselves are illegible on the first die (no. 23) and almost as bad on the second. The tetradrachms and light tetrobols, although they have different obverse types (the obverse of the tetradrachms is the same as that of the octadrachms and heavy tetrobols), share an uncertainty as to reverse type and both show a tendency to replace the dotted square by the linear, which is uniformly used on both denominations in the later groups.

These reverse types reveal two different elements in Alexander's coinage. The goats, used first on the light tetrobols and then on the tetradrachms, were taken, in abbreviated form, from the staters; no inscription was necessary on a coin bearing this type. The helmets, first on the tetradrachms and finally on the light tetrobols, are new to Macedonian coins, but cannot be considered a new type since

⁵ Cf. Chapter III for a discussion of the meaning of this type.

many of the tribal issues had a helmet as symbol or reverse type.⁶ It is possible that this adoption of the helmet as a reverse type is proof that Alexander conquered at least one of the tribes which he has been credited with subduing and whose coinage he supplanted. The Orrheskians, among others, used the helmet as a reverse type; their staters have already been included among the Ares types having some similarity to the early Macedonian coins (Chapter III and PLATE II, 13). Nothing is known of their location.⁷ They may have been a tribe incorporated into Alexander's kingdom, but of sufficient size and importance to have their tribal integrity preserved by the use of one of their types. The helmet continued as a reverse type through the coinage of Perdikkas on the light tetrobols. The goat disappeared finally at the end of Alexander's reign when Perdikkas discontinued the denomination bearing it.

Symbols are used only occasionally and with no evident purpose. The octadrachms show one anvil die with a leaping hound in front of the horse (PLATE III, 5). This is the anvil die which appears to be by the same hand as one of the anepigraphic series (PLATE II, 6). One hound, however, is not quite assurance that the rider should be called a hunter rather than a warrior. No. 4, an octadrachm, has a huge frog below the horse. It is without precedent and is never repeated. Its significance is unknown; though there are a few coins, of Aeginetan weight, attributed to an indefinite Aegean island,⁸ which have as type a swimming frog, it seems impossible to connect them with this coin. The same anvil die which has the hound also has a caduceus on the horse's rump. This symbol is a reference to the Apollo-Hermes type and had already appeared on some of the earlier tetradrachms, also as a brand. It keeps recurring in various positions throughout the reigns of Alexander (as a reverse symbol on tetradrachms and

⁶ Cf. Svoronos, *HPM*, Pls. I, 11-14; II, 1-4, 7-11; V, 22, 24; VI, 2, 3.

⁷ Cf. Head, *HN*³, 194; Babelon, *Traité*, II, 1, pp. 1057-1058; Svoronos, *HPM*, pp. 52-55.

⁸ Wroth, W., *Num. Chron.*, 3rd Ser. XVIII (1898), pp. 120-121; Pl. IX, 1, calls it a toad - which this also may be - and cites the literature.

small issues) and of Perdikkas (as a reverse symbol on the heavy tetrobols). One tetradrachm reverse die (no. 15) has a leaf, also used on some fractions, below the goat's chin. It has more resemblance to an ivy leaf than to a vine leaf, and it cannot be associated with the flower which appears on the early goat staters and later on Perdikkas' heavy tetrobols. During Alexander's reign, the small coins have no symbols; in Group I, the first two punch dies for the heavy tetrobols and one anvil die for the light tetrobols have inscriptions or monograms. Types alone were considered sufficient for these pieces, as well as for the fractions. It is not until the time of Perdikkas, when there were no large denominations, that the small coins carried symbols. As Group I remains, it cannot be said that the symbols have any major significance; they afford no help in arranging or dating the coins.

Even a cursory glance at PLATES II, IV, V, shows the homogeneity of Group I, and, in the case of the large denominations, their immediacy of succession upon the octadrachms and tetradrachms of the anonymous coins attributed to the Macedonians.⁹ The small pieces are the stylistic counterparts of the larger ones. A glance at PLATES VI-IX shows the marked difference in style of Group II. The arrangement of the coins in the various denominations within the Group is dependent upon factors that are susceptible of criticism; therefore, a justification of the methods employed to arrive at the present catalogue order is necessary.

A. The octadrachms (PLATE III) furnish no clue from the obverse to the order of their striking. The one die link (the A die of nos. 1 and 2) is of no value, since it may very well be that no. 2 is only another specimen of no. 1. The condition of the reverse is so poor that, while the legible portion is almost exactly similar to the reverse of no. 1, the condition of the rest makes it impossible to say that the die is the same. On the other hand, the letter forms and their arrangement on the P dies show changes which furnish some basis for their

⁹ PLATE II, 4 and PLATE III, 4, PLATE II, 6 and PLATE III, 5, PLATE II, 9 and PLATE IV, 12 and PLATE II, 8 and PLATE IV, 8 may be mentioned particularly.

sequence. P 1 (No. 1) has **A** for A and **P** for P; both of these forms occur on tribal issues. P₃¹⁰ (no. 3) has **A** for A, but P is regular; the A is tilted across the corner like the A on some Acanthus coins.¹¹ P 4 (no. 4) has both A and P in regular form, but the initial A is tilted in the corner. P 5 (no. 5) has both A's and the Δ tilted in the corners (again, similarly to some Acanthus coins) and some granulation within the four-part square. P 6 (no. 6) has a fine regular inscription with no tilted letters; there is a trace of granulation within the square. It is logical to conclude that the order given here is close to that in which they were struck. The obverses are very little different from those on the anonymous coins; the die-cutters worked in accustomed forms. The letters were something new and the coins show some uncertainty until P 6 is reached. Here, the letter forms are as good as those in the next Group.

B. The heavy tetrobols (PLATE V) are the only coins in the group which arrange themselves with something approaching finality. As with the octadrachms, the evidence lies in the reverses rather than in the obverses, since the latter show little stylistic progress. The six punch dies show increasing ability on the part of the artists to master this new type, after the pathetic attempts to include the inscription. Die sequences, of which there are three, are marked by wear and the break in HP 6, which occurs after its first use in no. 31 and is greater in no. 33 than in no. 32. The order of this denomination can be regarded as secure.

C. The tetradrachms and the light tetrobols (PLATES IV and V) are susceptible of two different arrangements: the one actually used in the catalogue and another that has been ignored because of the ambiguity of the evidence of the light tetrobols. The difficulty is caused by the duplication of reverse types in the two denominations; each uses both the helmeted head and the goat's head. The arrangement that has not been used would involve the simultaneous use, in both

¹⁰ Because of the condition of no. 2, there is no justification for including P 2 in the discussion.

¹¹ Cf. Desneux, *Les Tétradrachmes d'Acanthus*, no. 118, R 106.

series, of these two reverse types. Stylistically, this is quite possible; TP 1, TP 2, TP 3 (nos. 8–10) and TP 7 (no. 14) seem equally early, likewise TA 5 (nos. 12 and 13) and TA 12 (no. 21) are close in style. The fact that there are six TP dies with the helmet and seven and one half¹² with the goat's head, taken in conjunction with the appearance of six punch dies each for the octadrachms and heavy tetrobols, hints that a figure near that number is the total for each denomination of Group I. Thus, there would be two series of tetradrachms, each equalling in volume the other denominations. Unfortunately, the lack of corroboration for this from the light tetrobols casts light on its validity. There, only one LP die (no. 34) has a goat's head, while all seven others have the helmet. Both types seem contemporaneous on both denominations.

It is attractive to suppose that LP 1 is the sole survivor of a group of six or seven punch dies of that type, particularly in view of the seven helmet type LP dies. If that could be assumed, then there would have been two issues of both tetradrachms and light tetrobols in Group I. But such speculation is too dangerous; one must confine himself to the extant material. Therefore, the catalogue arrangement has been based on the fact that subsequent Groups show as standard types the rider r., and goat's forepart for the tetradrachms and the horse and helmet for the light tetrobols. The orientation of the riders on the obverse of the tetradrachms affords some evidence that the catalogue arrangement is correct: the obverses of the helmet series all face right; the earlier of the obverses of the goat's head series all face left. The last one (no. 21) which has the best goat's head, has the rider of the obverse facing right, a position which is unchanged thereafter. The catalogue order is admittedly unsatisfactory, since there is no conclusive evidence to justify either the arrangement used or the one discarded.

The artistic skill of the makers of the dies of Group I has already been mentioned casually. It deserves some special attention, in view of the signs of vigor and ability of the artists. Their mistakes are as

¹² P 9a (no. 17) is P 9 (no. 16), with the caduceus added.

revealing as their successes. There is no need to reproach them further for the first sorry lion reverses on the heavy tetrobols. One difficulty they never succeeded in overcoming (this is true even in Group III)¹³ appears on those obverses where the rider is carrying his spears on the outside (that is, in his right hand if he is facing right, and vice versa). All their skill in differentiating planes and indicating depth was not sufficient to make the spears appear separate from the body of the horse; they curve around it in most unconvincing fashion. (See PLATE III, 1, 2, 4 and 5, and PLATE IV, 11). A touch of realism on those riders facing left appears in their costume. The chlamys normally was fastened at the right shoulder, thus leaving the right arm free for action; the artist remembered, in showing the other side, that the chlamys covered his left arm completely and he indicated the folds. On the dies where the rider is facing left, the spears are held in the right hand, which is free. This touch of realism raises the question how such a rider managed his reins (held in the left hand) and how the riders facing right, who hold the reins in the right hand, managed to keep both spears in the closely wrapped left hand. These artists never resort to the device used elsewhere (and in Macedonia on the coins of Archelaos) of having the chlamys hang free from the shoulders to enable the wearer to use both arms.

All the artists, and it is possible to distinguish the work of individuals, indulged in freedom in details: the angle of the horse's foreleg, the shape and size of the petasus, the length of the chlamys, and the pattern of its folds, are individual matters. One trait they had in common was the decorative use of the drill. The matter of the dotted borders has already been remarked. Dots are used for the exergual line, for the horse's tail, and sometimes for the edge of the lion's or goat's body. Some dies, notably the obverse of No. 5 (PLATE III) and of nos. 16 and 17 (PLATE IV), show an incomplete masking of the original use of the drill along the upper part of the

¹³ The first octadrachm of Group III, no. 108 (PLATE X) shows how far from success they remained.

outer hind leg of the horse. In most cases, however, traces of the drill are blotted out unless they are to serve as decoration.

The helmets present peculiarities of detail. The form of the crest is different from that on most other coins; in fact, many helmets on the tribal issues have no crest at all. Such helmets as have been recovered from excavations in Thrace and Macedonia¹⁴ do not have crests. Their material is of course so much more perishable than that of the helmets that their non-survival is not surprising; it is in some cases impossible to tell whether the helmets recovered had a device to which a crest like that of the Macedonian could be attached. At any rate, the Macedonians had a crested helmet; it is not safe to call it either Corinthian or Attic. The shape of the bowl itself has its counterpart on sixth century vases,¹⁵ but the shape of the crest and its close attachment to the bowl can be paralleled only by some of the helmets used as a reverse type or as a symbol on some of the tribal issues.¹⁶ These helmets, as well as those of Group II, have a nose piece as well as cheek and neck pieces. The artists in all cases inserted a dot for the eye, although there is no other evidence that a helmeted head, rather than simply a helmet, was the type. There is no bit of the neck visible, either below or in the space between neck and cheek pieces. Since it is hardly conceivable that an eye shield was intended, the appearance of the dot for the eye may be considered a bit of archaic attention to detail such as is often evident on early vases.

Since the period of Group I is precisely defined, between 480/79 and 477/6, the extant dies and their combinations furnish indications

¹⁴ See Filow, *Die Archaische Nekropole von Trebenischte am Ochrida See*, pl. XV. These helmets have a channel in which a crest presumably was fitted. The general shape is similar to that of the helmets on the coins, but the nose piece is lacking. Filow considers the Trebenischte helmets to be a development of the Corinthian in the sixth and fifth centuries.

¹⁵ B. Schröder, *JDAI*, 1912, pp. 317—344, "Thrakische Helme," has classified helmet types on vases as well as surviving helmets. None of his groups corresponds exactly to the helmets on these coins.

¹⁶ Cf. note 6.

of length of use of the dies. It will be remembered that in Chapter IV evidence was cited for concluding that normal procedure in the Macedonian mint involved the use of three anvil dies with one punch. While many dies are lacking from Group I, particularly of the octadrachms, helmet series tetradrachms, and goat series light tetrobols, the survival rate of die combinations and specimens in the heavy tetrobols, the goat series tetradrachms, and the helmet series light tetrobols, makes it possible to draw some conclusions about the original number of dies in use and of the number of dies normally used per year in the Macedonian mint.

<i>Denomination</i>	<i>P Dies</i>	<i>A Dies</i>	<i>Combinations</i>	<i>Specimens</i>
Octadrachm	6	5	6	6
Tetradrachm				
(helmet)	6	5	6	9
(goat)	7½	7	8	17
Heavy tetrobol	6	11	11	21
Light tetrobol				
(goat)	1	1	1	2
(helmet)	7	9	10	20

The numbers six, seven, and seven and a half (the half indicates that a die was used first without a symbol and later recut with a symbol: possibly the number should be eight) for P dies and seven, nine, and eleven for A dies lead one to believe that nearly all the punch dies survive. For a period of four years, the rate of two punch dies would demand eight P dies for Group I; any other calculations would not account for the proportion of die combinations to extant specimens in Group I.

If three A dies were used with each P die, the maximum number of A dies for the four-year period would be twenty-four; this would be the case if no A die was used with more than one P die. The die sequence charts (pp. 69–70) show, however, that this was not the case. Every series except the heavy tetrobols shows one A die link. Since

three A dies were in use at once with one P die, the minimum number of A dies for the four-year period would be twelve; eleven of the number survive in the heavy tetrobol series, which is the only series not to show A die links. Therefore, the number must be fifteen, eighteen or twenty-one A dies for the four-year period. Fifteen would not be sufficient to compensate for the lack of A die links in the surviving heavy tetrobol combinations; twenty-one is an unnecessarily large figure – possible but larger than survivals from this Group or any other warrant. It seems reasonable to posit eighteen A dies for this four year period, making the life of the three A dies used at one time about two-thirds of a year.

The two series of tetradrachms present as great a problem in this connection as in the matter of their arrangement. There are enough surviving P dies in each to lead to the conclusion that both series were being struck at the same time, and the total number of A dies is only one more than in the heavy tetrobols. Unfortunately, the only A die links (see p. 70) are within each series, not between them. Here, the question of wear on the dies has some bearing. Nos. 12 and 13 use the same A die. In the first specimen of no. 12 (PLATE IV), the beginning of a break at the right foreleg is barely visible; in the second (wt. 10.80) there appears to be repair on the coin itself, a cutting away to sharpen the outline of the leg to such a degree that the weight of the coin has been affected. In no. 13 (not illustrated), there are three specimens, showing an increase in the size of the break at the forefoot and another at the tail. The P die used in no. 12 shows no sign of deterioration in either specimen; therefore, the P die used in no. 13 was not a replacement for a worn die. Much the same facts appear from an examination of nos. 16 and 17a (PLATE IV). There the anvil die shows no more wear in one than in the other; the order of striking could not be determined if the P die of no. 17 were not that of no. 16 with the caduceus added. In the five specimens of no. 17, the P die shows progressive wear at the edges of the incuse and linear square and the sharpness of the outline of the A die is reduced after no. 17a. It is conceivable that the six (?) missing anvil dies for the

tetradrachms would provide links between the two series to show that they were struck simultaneously, for a year or two at least.

The light tetrobols have only one surviving goat's head reverse die, which makes it rash to believe that the two series in this denomination ran concurrently, even though they may have done so in the tetradrachms. Until more dies turn up, the arrangement of the two denominations must be left uncertain; there is no conclusive evidence pointing in one direction. At least it can be said that in the helmet series of light tetrobols and in the heavy tetrobols, a total of eight P dies and eighteen A dies was used for the four years; the same is probably true for the tetradrachms and may be true for the octadrachms, although here few anvil dies survive.

One other factor must be taken into consideration: the relation of the weights of the coins to those of communities with which Alexander came in contact. In the Thraco-Macedonian area, the weights of his coins were the same as those of other issuing agents. Greece proper, with which he sought to unite himself during the Persian Wars and with which he hoped to cooperate subsequently, had no coinage with which the octadrachms (wt. 29.46) were readily exchangeable. It may be that a smaller number of coins of this denomination was struck. The tetradrachms exchanged with Attic tetradrachms at the rate of four to three ($13.08 \times 4 = 52.32$ and $17.44 \times 3 = 52.32$), a heavy tetrobol and a tetradrachm together equalled a Chian-Rhodian tetradrachm (15.52) and the light tetrobol was exactly equivalent to an Attic tetrobol. Therefore, the numbers of coins struck in all but the largest denomination would be consequent on a far larger trade potential than would the octadrachms.

3. FRACTIONAL ISSUES, PLATE V, a-e

There are a number of small coins of various recognizably Macedonian types which are of the same fabric and style as the catalogued pieces in Group I and must therefore be considered a part of that Group. The main varieties are illustrated on PLATE V, a-e. All but

one have the anonymous four-part linear square in the incuse on the reverse; one has a goat's head right. The first four might be considered as belonging in the period of the uninscribed Macedonian coinage discussed in Chapter III, and, indeed, there is no certainty as to their date, except that they cannot be later than Group I. All obverses show a horse, its forepart, or its head in a dotted circular border. The small size of these coins makes it almost impossible to say that they are or are not stylistically contemporaneous with Group I, since we have already noticed the close similarity in style between the uninscribed earlier octadrachms and tetradrachms and those of Group I. PLATE V, a and e, are particularly nondescript.

It is well-nigh impossible to give a name to the majority of these fractions, or to assign them to the standard of the octadrachms or the tetradrachms, for two reasons: (1) The extant weights have no correspondence with the types, and (2) the original difference in the norms is in itself very slight. Given ancient irregularities of striking, one cannot distinguish denominations. The norms are as follows:

	<i>Octadrachm Standard</i>	<i>Tetradrachm Standard</i>
Drachma	3.68	3.27
Tetrobol	2.45	2.18
Triobol	1.83	1.62
Diobol	1.22	1.08
Trihemibol	.91	.81
Obol	.61	.54

The weights of the coins illustrated on PLATE V are: a, .46; b, 2.22; c, 1.03; d, 1.05; e, .85. It will be noticed that b could be a light tetrobol, or even a heavy tetrobol, for the list appended at the end of Chapter II shows some specimens of both denominations which weigh less than PLATE V, b.

The types do not afford a criterion for determining denominations. The difference in weight between b and c – more than a gram – although both coins have the same type, makes it difficult to believe

that they were intended to represent the same value. It might be conjectured that b is a light tetrobol of the period before Group I, but the style of its reverse is finer than most of the coins of that time. The forepart of a horse on the obverse of d contradicts its weight, by which it should be the same denomination as c, possibly the diobol on the tetradrachm standard, but such a conclusion leaves out of account the difference in type. PLATE V, d and e, both with the forepart of a horse, should be fractions of something – of a light tetrobol and a light triobol? But here again is a duplication of obverse type of coins of two different denominations. The reverse type on e, the forepart of a goat, is stylistically contemporaneous with the tetradrachms (see PLATE IV) and one light tetrobol (PLATE V, no. 34) of Group I. PLATE V, a, wt. .46, is obviously an obol, but with the difference in the norms only .07, it is impossible to say *which* obol this coin is intended to be.

There are other coins, as yet unassigned, which have the forepart of a horse on the obverse and a kneeling goat on the reverse (Gaebler, *AMNG* III, 2, pl. XXVII, nos. 2–5) and one (pl. XXVII, no. 6) with the same type of goat on the *obverse* and horse's forepart on the *reverse*. The weights range from 1.00 to 1.78. These coins may be Macedonian, struck ca. 492 when the Macedonians under Alexander joined the tribal alliance against the Persians. It is as difficult to determine their denominations as to explain the reversal of obverse and reverse types.

CHAPTER VI

GROUP II, 476/5 - ca. 460

I. CATALOGUE

Octadrachms, PLATES VI AND VII

Obverse B I: Horse and attendant r., on exergual line; attendant wears chlamys and petasus, holds reins and carries two spears; dotted circular border.

Reverse AA: ΑΛΕ/ΞΑ/ΝΔ/ΡΟ in incuse square around four-part linear square.

- OP 7 45. Obv. B I; spears parallel, horse's tail wavy.
A 6 Rev. AA.
*a. *Hunter Coll.* I, p. 283, 1 29.01
Obv. slashed at l., A die has slipped at tail and border.
Rev. damaged between A and N.
- OP 8 46. Obv. B I; spears reversed, garment long and elaborate;
A 7 horse rigidly posed.
Rev. AA; letters crude; extra linear square at edge of incuse.
*a. Boston, R 615 26.10
ex Warren, 1904
A die damaged at r. hind foot and border.
- OP 9 47. Obv. B I; spears broken, garment long as in no. 46, but style
A 8 as good as no. 45.
Rev. AA; letters heavy, Δ awkwardly placed.
a. *Ravel Coll.*, 1934.
- OP 10 48. Obv. B I; spears loosely held.
A 9 Rev. AA.
*a. London (*BMC Mac.* p. 156, 2) 28.66
A die damaged at spear-heads and border, at l. forefoot,
below horse's head. P die poorly cut at edges of incuse.
- OP 11 49. Obv. B I.
A 10 Rev. AA; fine letters.
*a. Paris (*BT*, I, 2, 1500) 28.77

Group II

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- OP 12 **50.** Obv. B I; die of no. 49.
 A 10 Rev. AA; incuse deeply cut at corners.
 *a. London (*BMC Mac.* p. 156, 1) 28.98
 b. Dewing Coll. 28.85
 ex Spink, 1944, 27756
 A die damaged at tail, at l. foreleg and border, at horse's
 head and border; P die worn at top bar of \mathfrak{F} and incuse.
- OP 13 **51.** Obv. B I; die of no. 49.
 A 10 Rev. AA; letter space slightly curved as on some Acanthus
 coins; inner squares lightly granulated.
 *a. Naville, 1921, 815 28.64
 A die damage much greater; crown of hat also affected.
- OP 13 **52.** Obv. B I, without exergual line.
 A 11 Rev. AA; die of no. 51.
 a. Lambe Coll. 25.13
 ex Afghanistan Hoard
 Coin clipped at left side of obverse; slash across shoulder
 of horse; letters damaged on reverse.
- OP 14 **53.** Obv. B I; spears broken; man much shorter than horse.
 A 12 Rev. AA; A, A, and Δ tilted across corners.
 *a. London (*BMC Mac.* p. 157, 3) 25.92
 b. Petsalis Coll. 110 (very worn)
- OP 15 **54.** Obv. B I; waning moon in upper l. field.
 A 13 Rev. AA.
 a. *McClean Coll.* II, 3274 29.10
 ex Sotheby, 1904, 50; *ex* Sotheby, 1896, 206
- OP 16 **55.** Obv. B I; waning moon in upper l. field.
 A 14 Rev. AA; edges of incuse ragged.
 *a. Paris (*BT*, I, 2, 1501) 29.00
- OP 17 **56.** Obv. B I; die of no. 55.
 A 14 Rev. AA.
 a. Berlin
- OP 18 **57.** Obv. B I; waning moon in upper l. field.
 A 15 Rev. AA; letter space slightly curved.
 *a. Vienna 28.20
 Edge of A die almost as badly damaged as A 10 in no. 51.

Tetradrachms, PLATE IX

Obverse A II a: Mounted warrior-hunter r., holding reins in r.h., spears in l.h., wearing chlamys and petasus, exergual line and linear circle.

Reverse CC II: forepart of goat r., in linear square within incuse square.

TP 14	58.	Obv. A II a.	a. Hirsch, 1908, 1170	11.75
A 13		Rev. CC II.	<i>ex</i> Ratto, 1896, 917 (<i>G. Falsch.</i> p. 209, 21; Pl. IV, 5)	
TP 15	59.	Obv. A II a.	a. London (<i>BMC Mac.</i> p. 159, 2)	12.34
A 14		Rev. CC II.		
TP 15	60.	Obv. A II a.	*a. A.M. Newell Coll.	12.61
A 15		Rev. CC II; die of no. 59.	b. Naville, 1929, 190 <i>ex Weber Coll.</i> 2017; <i>ex</i> Ready, 1887.	12.67
			c. Berlin (<i>B.B.</i> II, p. 177, 91) (<i>G. Falsch.</i> p. 210; pl. IV, 6; he admits this is genuine.)	12.46
			d. Berlin, Imhoof	12.14
			e. Cahn Coll.	12.97
TP 16	61.	Obv. A II a.	a. SNG Lockett Coll. 3, 1383	12.71
A 16		Rev. CC II.	<i>ex</i> Naville, 1921, 821 (<i>G. Falsch.</i> p. 210, note 3 a.)	
TP 17	62.	Obv. A II a, with A on exergual line	a. ANS-ETN	12.66
A 17		Rev. CC II.	<i>ex</i> Hirsch (Rhousopoulos), 1905, 1939	
			*b. Berlin	13.40
			c. Brussels	
			d. Six Coll.	12.83
			<i>ex</i> Hamburger, 1930, 16; <i>ex</i> Sotheby 1911, 83; <i>ex</i> Sotheby, 1904, 139	
			e. Empedocles Coll.	12.56
			<i>ex</i> Egger, 1912, 546; <i>ex</i> Hirsch, 1909, 465; <i>ex</i> Hirsch, 1904, 98 (<i>G. Falsch.</i> p. 208, note 3 b; his list is rather incoherent, in- cluding a specimen from the Hague, 12.22, which may be from these dies.) P die miscut at l. edge of incuse and linear square.	

Group II

103

TP 17 A 18	63. Obv. A II a, with A as in no. 62. Rev. CC II; die of no. 62.	*a. Paris (<i>BT</i> , IV, 2, 806) No reworking of P die.	12.65
TP 18 A 19	64. Obv. A II a, with A as in no. 62. Rev. CC II.	a. London <i>ex</i> Sotheby, 1896, 209	12.76
TP 19 A 20	65. Obv. A II a, with A as in no. 62. Rev. CC II.	a. Ravel Coll. b. <i>Hunter Coll.</i> I, p. 294, 2, pierced	12.50 12.72

Octobols, PLATE VII

Obverse B II: Horse and attendant r., on exergual line; attendant wears chlamys and petasus, holds reins and carries two spears; it is hard to distinguish a border.

Reverse AA: AΛE/ΞA/ΝΔ/ΡΟ in incuse around four-part linear square.

SP 1 A 1	66. Obv. B II. Rev. AA; inner squares granulated.	a. Helbing, 1913, 280 *b. London (<i>BMC Mac.</i> p. 157, 5) c. Empedocles Coll. <i>ex</i> Naville, 1921, 816; <i>ex</i> Hirsch (Rhousopoulos), 1905, 1031	3.65 3.96 3.99
SP 1 A 2	67. Obv. B II. Rev. AA; die of no. 66.	*a. SNG Lockett Coll. 3, 1381	3.69
SP 2 A 2	68. Obv. B II; die of no. 67. Rev. AA.	a. <i>Hunter Coll.</i> , I, p. 283, 3 *b. Boston R 616 <i>ex</i> Warren, 1904; <i>ex</i> Moore, 1889, 224; <i>ex</i> Ivanoff.	3.85 4.02
SP 3 A 3	69. Obv. B II. Rev. AA.	*a. Hirsch, 1909, 461	3.90
SP 3 A 4	70. Obv. B II. Rev. AA; die of no. 69.	a. <i>McClean Coll.</i> II, 3275 *b. Naville, 1921, 817	4.00 4.13
SP 3 A 5	71. Obv. B II. Rev. AA; die of no. 69.	*a. Gotha b. ANS-ETN <i>ex</i> Cahn, 1928, 384; <i>ex</i> Weber <i>Coll.</i> 2002.	4.05 4.06

		c. Brussels	4.07
		d. Berlin (<i>B.B.</i> II, p. 181, 2)	4.03
		e. Berlin (<i>B.B.</i> II, p. 181, 3)	4.12
		A die break begins behind rider's body at <i>b</i> ; damage to P die at E and edge of incuse increases from no. 69a to no. 71e.	
SP 4	72. Obv. B II.	a. Schlesinger, 1935, 611	4.00
A 6	Rev. AA; incuse not quite square, lower edge beveled.	*b. Paris (<i>BT</i> , I, 2, 1502)	4.08
		c. Copenhagen <i>SNG</i> , 494	4.14
		<i>ex</i> Argyropoulos, 1880. A die break at tail begins at <i>b</i> .	
SP 4	73. Obv. B II; garment below horse as in nos. 46, 47.	*a. Vienna	4.15
A 7	Rev. AA; die of no. 72.	b. <i>Jameson Coll.</i> 969	4.07
SP 4	74. Obv. B II; garment as in no. 73.	*a. Berlin	
A 8	Rev. AA; die of no. 72.		
SP 5	75. Obv. B II; die of no 74.	a. Walcher de Moltheim, 1017a	3.27
A 8	Rev. AA.	*b. London (<i>BMC Mac.</i> p. 157, 4)	4.27
		c. Naville, 1928, 451	3.96
		<i>ex</i> Egger, 1912, 542	
		d. Vienna, pierced	3.74
		P die miscut or damaged between Λ and E, and A and N.	

Light Tetrobols, A Series, PLATE VIII

Obverse C I: Horse unattended r., in dotted circular border.

C II: Horse unattended r., in linear circle.

Reverse DD I: Crested helmet r., with nose, neck and cheek pieces, in linear square within incuse square.

LP 9	76. Obv. C I.	*a. Helbing, 1929, 2814	2.20
A 11	Rev. DD I.	<i>ex</i> Hirsch (Rhousopoulos) 1905, 1043	
		P die damaged or miscut at crest and linear square.	

Group II

105

LP 9 A 12	77. Obv. C I, A below horse. Rev. DD I; die of no. 76.	*a. <i>McClean Coll.</i> II, 3284 (reverse defaced)	1.94
LP 9 A 13	78. Obv. C II, A on exer- gual line. Rev. DD I; die of no. 76.	*a. <i>Hunter Coll.</i> I, p. 284, 5 No apparent wear on P die.	1.76
LP 10 A 13	79. Obv. C II; die of no. 78. Rev. DD I.	*a. <i>Copenhagen SNG</i> , 490 <i>ex</i> Rollen.	2.09
LP 10 A 14	80. Obv. C II, A above horse. Rev. DD I; die of no. 79.	*a. Berlin <i>ex Weber Coll.</i> 1172	2.03
LP 10 A 15	81. Obv. C II; A on exergual line. Rev. DD I; die of no. 79.	*a. <i>McClean Coll.</i> II, 3285, pierced (Grose's note on no. 3287, which should be transferred to no. 3285, says "A above incised base line, cut in later".)	2.05
LP 10 A 16	82. Obv. C II. Rev. DD I; die of no. 79.	*a. Noe Coll. b. <i>McClean Coll.</i> II, 3286 c. Paris d. <i>Copenhagen, SNG</i> , 486 Both dies show damage.	1.92 2.49 1.90 2.04
LP 10 A 17	83. Obv. C II, A on exer- gual line. Rev. DD I; die of no. 79.	*a. London (<i>BMC Mac.</i> p. 160, 10)	2.13
LP 11 A 17	84. Obv. C II, die of no. 83. Rev. DD I.	*a. ANS-ETN	2.05
LP 11 A 18	85. Obv. C II. Rev. DD I; die of no. 84.	*a. Vienna, pierced b. <i>Weber Coll.</i> 2012 Exergual line broken at center on b.	1.90 2.42
LP 12 A 19	86. Obv. C II. Rev. DD I.	a. <i>SNG</i> , Newnham Davis, 131 *b. Munich A die break between horse's tail and body.	2.30 2.11
LP 13 A 20	87. Obv. C II, A above horse. Rev. DD I.	*a. <i>Copenhagen, SNG</i> , 489 b. Vienna b broken at edge as if in at- tempt to pierce it.	1.97 1.94

LP 13 A 21	88. Obv. C II, A above horse, slightly tilted. Rev. DD I; die of no. 87.	*a. Gotha P die damaged at top of helmet and square.	2.00
LP 13 A 22	89. Obv. C II. Rev. DD I; die of no. 87.	*a. ANS-ETN P die damage increased.	2.20
LP 14 A 22	90. Obv. C II; die of no. 89. Rev. DD I.	*a. Hamburger, 1930, 18 P die damaged at upper r. corner of incuse and linear square.	2.02
LP 14 A 20	91. Obv. C II; die of no. 87. Rev. DD I; die of no. 90.	*a. Munich Wear obscures damage on P die.	
LP 14 A 23	92. Obv. C II, A above horse. Rev. DD I; die of no. 90.	*a. ANS-ETN Greater damage to P die.	2.09
LP 14 A 24	93. Obv. C II, A above horse. Rev. DD I; die of no. 90.	*a. London (<i>BMC Mac.</i> p. 160, 12) pierced b. <i>Olynthus Ex.</i> VI, 149 P die damage greater.	1.80 2.15
LP 14 A 25	94. Obv. C II, A above horse. Rev. DD I; die of no. 90.	a. Brussels *b. Athens, 1365 c. London Condition of coins obscures A on obverse and damage on P die.	1.88 1.96
LP 14 A 26	95. Obv. C II, A above horse Rev. DD I; die of no. 90.	*a. London (<i>BMC Mac.</i> p. 160, 11) P die damage has extended to crest.	2.04

Light Tetrobols, H Series, PLATE IX

Obverse C I: Horse unattended r., in dotted circular border.

Reverse DD I: Crested helmet r., with nose, neck, and cheek
pieces, in linear square within incuse square.

Group II

107

LP 15 A 27	96. Obv. C I, horse leaping, H below Rev. DD I.	*a. Berlin <i>ex</i> Walcher de Molthein, Renner Cat. 1018.	2.10
LP 16 A 28	97. Obv. C I, horse leaping, H below. Rev. DD I.	*a. Paris (<i>BT</i> , I, 2, 1523)	1.99
LP 17 A 29	98. Obv. C I, exergual line. Rev. DD I.	*a. Glendining, Seaby, 1927, 588	2.14
LP 17 A 30	99. Obv. C I, exergual line, H above. Rev. DD I; die of no. 98	a. <i>Weber Coll.</i> 2011 <i>ex</i> Rhousopoulos, 1896 *b. Paris, pierced P die worn at crest and top line.	2.24 1.76
LP 18 A 30	100. Obv. C I; die of no. 99. Rev. DD I.	*a. Copenhagen SNG, 491 <i>ex</i> Ramus	2.75
LP 19 A 30	101. Obv. C I; die of no. 99. Rev. DD I.	*a. London (<i>BMC Mac.</i> p. 160, 13) pierced b. Paris (<i>BT</i> , I, 2, 1522)	2.07 2.27
LP 19 A 31	102. Obv. C I, exergual line, H above. Rev. DD I; die of no. 101.	*a. Athens, pierced	1.96
LP 19 A 32	103. Obv. C I, horse leaping, H below. Rev. DD I; die of no. 101.	*a. London (<i>BMC Mac.</i> p. 160, 14)	1.85
LP 20 A 32	104. Obv. C I; die of no. 103. Rev. DD I.	*a. Munich, pierced.	
LP 21 A 32	105. Obv. C I; die of no. 103. Rev. DD I; cheek piece overlaps linear sq.	*a. <i>McClean Coll.</i> II, 3289 P die damaged at l. linear and incuse squares.	2.13
LP 21 A 33	106. Obv. C I, exergual line. Rev. DD I; die of no. 105.	*a. Vienna, pierced P die damaged at cheek piece and linear square.	1.95
LP 22 A 34	107. Obv. C I, exergual line, H above. Rev. Head r., neck vis- ible below, in crested helmet, end of plume recurving below neck; eye and mouth clearly visible.	a. Vienna (very worn) *b. Berlin	1.79 2.15

2. CHRONOLOGY AND SIGNIFICANCE

The knowledge that we possess of the kingdom of Macedonia under Alexander after the defeat of the Persians is very scanty, actually not so much knowledge as inference. The events of the "Pentecontaetia" as recorded by Thucydides¹ do not include any action by Alexander, but, since the locale of the earliest action of the Delian Confederacy, the reduction of Eion by Cimon, is close to Macedonia, we may be sure that Alexander was concerned in it. Remembering the king's words to the Athenian generals when he came secretly to them on the eve of the battle of Plataea,² we can imagine the eager anticipation with which Alexander awaited the arrival of the Athenian fleet. Plutarch³ is the only ancient author to mention Alexander in this connection; he says that one of the charges against Cimon in 461 was that he had been bribed by Alexander not to seize Macedonia when he drove the Persians out of Eion. A nice bit of calumny which arose out of events some ten years later than the time to which it was assigned.

¹ The relevant chapters are 96–101 in Book I. Briefly, these chapters include the following facts. (The dates given are either those generally accepted or those of Gomme, *A Commentary on Thucydides*, Book I, pp. 361–413. He has made a thorough study of Thucydides' purpose and achievement in this section of Book I and discusses the problems of chronology resulting (a) from his brevity, (b) from the very different purpose of Plutarch in his *Cimon* and *Pericles*, and (c) from the unreliability of other chroniclers who have included mention of the interval between the Persian and the Peloponnesian Wars in their chronographies). 1. The first collection of tribute from members of the Delian League in 476. 2. The expulsion of the Persian garrison at Eion by Cimon in 476/5. (Herodotus, VII, 107, gives the story of the heroism of the Persian commander Boges; Diodorus, XI, 69, 1, states that the Athenians settled cleruchs there immediately after the expulsion of the Persians, although Thucydides does not mention it.) 3. The revolt of the Thasians in 466/5. 4. The Athenian punitive expedition of the same year and the dispatch of 10,000 settlers of the Athenians and their allies to Ennea Hodoi. 5. The defeat of the Athenians at Drabescus in 465. 6. The subsequent siege of Thasos, its request for Spartan aid in 464, the Spartan promise and failure of fulfillment because of the earthquake and the revolt of the Helots in the same year. 7. The final capitulation of the Thasians in 463/2, their relinquishment of claims to the mainland and their inclusion in the tribute lists.

² Cf. Herod. IX, 44–45, and Chapter I.

³ Cf. Plutarch, *Cimon*, 14, and *Pericles*, 10.

The coins given here as belonging to Group II show first the alacrity of Alexander to assist the Athenians and later his determined opposition to them when in 466/5 they made their first attempt to found a city on the site of the later Amphipolis. The changes in denomination, type and style of the coins show that Group II began as an issue designed (a) to exchange readily with Athenian currency, (b) to rally the moribund, if not defunct, tribal alliance to work with the forces of the Confederacy, and (c) to provide an earnest of Alexander's membership in the Hellenic race. A little less than ten years after these changes were made, they were modified in a way that reflects the disillusionment of Alexander about the aims of Athens. ✓

a. The change in denomination was a simple one: for the heavy tetrobols (2.45) was substituted a unique issue of octobols (4.36). This substitution made the exchange between Attic and Macedonian currency a simple affair, for the octobol was the equivalent of an Attic drachma,⁴ the light tetrobol was in weight an Attic triobol, and the tetradrachm of 13.09, of the worth of three Attic drachms. The octadrachms, which were *not* readily exchangeable with Attic currency, were nevertheless retained, even though their fraction, the heavy tetrobol was intermitted. The reason, I think, is not far to seek. Alexander needed to make purchases in the north, possibly of supplies for the Athenian fleet, for which he would need the large denomination in the currency of the region. All the smaller coins struck were, of course, a part of the Thraco-Macedonian system,⁵ but they were also Attic in weight. As we do not know the rate of pay at that time for Athenian troops,⁶ we cannot assume that the light

⁴ See Chapter II, note 14.

⁵ The octobol does not seem to have been struck so frequently as other small coins, but it was in use from at least the middle of the sixth century.

⁶ Information on that subject is extremely scanty at any period. We know that it was raised to three obols a day under Pericles, or a drachma if the troops found their own food. At how early a period pay for troops began is uncertain, but perhaps the levying of tribute from members of the Delian Confederacy was occasioned not only by the need for supplies, but also for the pay of troops who might in a sense be considered as

tetrobols (an unusually heavy issue) and the octobols were designed to help Cimon meet his payroll. It is obvious, however, that these small pieces, as well as the considerable variety of fractional issues (PLATE IX, a–e) would facilitate trade by the troops with Macedonian *καπήλοι*.

b. The changes in type, which are in a measure consequent on the change in denomination, are significant of Alexander's interest in the earlier tribal alliance, which had turned military in 492.⁷

1. The type of the octadrachms is once again the horse and attendant of the anepigraphic octadrachms issued in the late sixth (?) and early fifth centuries. At least one Bisaltian octadrachm of the same type (PLATE II, 3, from the Hunterian Collection) must be dated by its style to this same time.⁸ The retention of Alexander's name on the reverse shows that he was not merely a participant in the alliance as he had been earlier, but its leader. 2. The tetradrachms, whose type shows no change beyond the substitution of the goat's forepart for its head, have the initial of Alexander's name added to the obverse, at the exergual line, half-way through the series as it now remains. 3. The type of the octobols, obverse and reverse, is the same as that of the octadrachms. This is a major change, for the octobols are metrically related to the tetradrachms, not to the octadrachms. It will be remembered that in Group I (cf. pp. 87–88) the types tended to emphasize the metrological variants. Here, the variants are linked by type. 4. The light tetrobols, while retaining the type which became fixed before the end of Group I (horse-helmet), form two separate series marked by divergencies of style. One series has the letter A above or

mercenaries. There are some references in Thucydides to rates of pay during the Peloponnesian War. The matter is discussed in *CAH*, V, 23–32, but for the period immediately following the Persian Wars there is no actual information.

⁷ Cf. Chapter III, pp. 57–59.

⁸ Cf. also Svoronos, *HPM*, Pl. XI, 6 (London) which has the form A in the inscription. There is no justification for the oft-repeated statement that "Alexander subdued the Bisaltians and adopted their coin-types". Cf. Babelon, *Traité* I, 2, p. 1037. The latest occurrence of the idea is in Edson, *CP*, XLII (1947), 88–105, "Notes on the Thracian 'Phoros'," 95, note 56.

below the horse on ten of its anvil dies. Five of the other six anvil dies are linked by punch dies with the monogram dies; the sixth shows by its style that it belongs in the A series (A 19, no. 86). The other series has the letter H on five of its anvil dies; the remaining three are linked to them by punch dies. The horse itself on the H series, is not a Macedonian horse (see p. 114). The combination of the "foreign" horse and the letter H, which is hard to connect with Macedonia,⁹ are additional indications of the more than national significance of this group. The intermission of the heavy tetrobols leaves their reverse type, the forepart of a lion, unused in Group II. Since this is the only type used by Alexander which did not have a place in the tribal issues,¹⁰ its absence increases the "international" purpose of the Group. The strictly national, or regal, nature of Group I has thus been altered in two respects: (1) exchange with Athens was facilitated and, (2) emphasis was placed on those types which had more than national meaning.

c. A comparison of PLATES III, IV and V with PLATES VI, VII, VIII, and IX will show clearly the great improvement in style in Group II. Since the group follows immediately upon Group I, the change must be due to a fresh artistic impulse for the origin of which it is natural to look to the south. The greater skill in the execution of the dies is more readily apparent on the octadrachms and tetradrachms. The smaller denominations do not offer quite the scope for beautiful work; the changes, while marked, do not result in such splendid improvement as on the larger pieces. While the interpretation of stylistic change, or variation, is very subjective,¹¹ it is possible to identify the work of southern artists on some dies. Since the reverses

⁹ I have no explanation for this letter; it might refer to Eion or to the Edonians. Neither is very plausible, since the Edonians used the Apollo-Hermes types and Eion used a water (?) bird on the few small coins generally attributed to it. The "foreign" horse on these coins, similar to the horse on coins of tribes or cities in the area, is not associated with any tribal group whose name begins with that letter.

¹⁰ Cf. Chapter III for a discussion of the origin of the lion type on Macedonian coins.

¹¹ Cf. C.H.V. Sutherland, "What Is Meant by 'Style' in Coinage?" *ANS Museum Notes*, IV, 1-12.

of the octadrachms offer an opportunity for little more than fine letter cutting, the obverses only need be considered. No. 45 (PLATE VI) is probably the best and has been put first for that reason. The proportions of horse and attendant are well calculated; their poses are relaxed yet alert; the head (of the attendant), hair and petasus, as well as the upper part of the chlamys, show a skill which is entirely lacking on the octadrachms of Group I. The horse is sleek and subtly modelled, very similar in its restraint and anatomical simplicity to the handsome and spirited bronze horse in the Metropolitan Museum, dated between 490 and 480.¹² Details of mane, hooves and muscles show a close relationship. On the coin, the composition is perfectly adjusted to the available space. Unfortunately, the only specimen is marred by a deep slash at the left side, but the beauty of the piece is still unmistakable. The other octadrachms, except no. 46 show the influence of this one, which surely was made by a Greek, probably an Athenian die-cutter. The smoothness of the musculature, the simplicity of modelling, and the composition of nos. 47-57 (PLATES VI and VII) are witness to the ease and speed with which Alexander's die-cutters learned new methods. It is chiefly in the stiffness of the heads of horse and attendant, in the awkwardness of the bunched folds of the chlamys at the neck, and in the proportions of the petasus that these anvil dies fall short of the first one.

The obverses of the tetradrachms (PLATE IX) show an improvement over those of Group I (PLATE IV) comparable to that of the octadrachms, but there is no anvil die demonstrably superior to the others. As will be seen below, one of the octobol dies enjoys this distinction, which fact leads to the conclusion that an Athenian (or, at least, a Greek) artist made one large and one small die as a model for Macedonian workmen. Every coin in Group II shows this die-cutter's influence, for all the dies are marked by a smoothness and "polish" which actually enhances the vitality already evident in the heavy, rather clumsy, horses and riders of Group I. Since Group II follows immediately upon Group I, the improvement cannot be con-

¹² Richter, *Animals in Greek Art*, figs. 62, 63.

sidered as having its source in Macedonia, particularly because of the rather slight advance of the coins of Group I over those of the period just before it, when the Macedonian coins were struck; compare PLATES II and III and contrast them with PLATES VI, VII and IX. The reverses of the tetradrachms, with the forepart of a kneeling goat, are much more elegant than those of Group I, although, as in the case of the obverses, there is no one die of marked superiority. There is every possibility that one will some day be found, to show that a southern artist made a model for this type also. TP 17, used with two different obverses (nos. 62 and 63, PLATE IX) was originally miscut at the left side, but seems to have suffered no subsequent damage in use. There are five specimens of no. 62, among which none shows the A die badly worn; it would appear that TA 17 and TA 18 were in simultaneous use and that the miscut TP 17 was used because of the necessity of heavy striking in this series; production could not be held up while a better die was being cut.

An examination of the light tetrobols shows an advance in style over those of Group I similar to that of the other series, but as in the case of the tetradrachms, there is no anvil or punch die (with the possible exception of LP 22) which shows clearly that it was made by a southern artist. The reverses show a marked variety in the shape of the helmets, which retain the nose piece shown in Group I. In general, it may be said that the chief change is in the elongation of the cheek piece, although one P die in the earlier Group, that of nos. 39 and 40 (facing l.) anticipates this lengthening. Likewise, in most cases, the bowl is more sharply differentiated from the remainder of the helmet. The helmets themselves retain the close-fitting crests which seem to be exclusively northern; the articulation of the members may possibly represent (at least in some cases) an interpretation of the northern helmet by southern artists, or the form of the helmet itself may have undergone some modification at this time. One LP die, that used on the last coins of the H series (no. 107, PLATE IX) deserves special mention. Here, a head, with the neck visible below, is shown in a helmet with a most peculiar crest, curving

below the base of the neck. The die is of singular beauty and has no affinities among the reverses of the other light tetrobols. It does not recur in subsequent groups. This may have been the one die where a southern artist used a type of helmet, fanciful or otherwise, which pleased him as an artist, instead of modifying the regular type.


While the horses of the A series of light tetrobols call for no comment beyond the mention above of their advance in style over those of Group I, those of the H series are in a special category. (See PLATE IX). They are a slim, wiry breed of horse, not at all like the stocky or rangy horse which is customary on Macedonian coins, with the sole possible exception of No. 44 in Group I (PLATE V). Even here the similarity is not great. When in motion, and motion beyond the tentative raising of a forefoot is not characteristic of the horses on Alexander's coins, these horses spring forward in a manner that cannot be described as either prancing or galloping, since all four legs are angularly bent, the foreknees almost touching the chin. On the much later tetrobols of Perdikkas, when the regular Macedonian horses start prancing (PLATES XII, 163, 164, 166-9, XIV, *passim*, and XV), then galloping (PLATE XIII, 170-175), they do so in the manner one expects of a horse; these are quite different. Although the action is more violent, the horses themselves bear a close resemblance to those on the earlier staters of the Ichnaians, Orrheskians and Tyntenians (PLATE II, 10, 11, 13), in pose and proportions. These coins have already been discussed in Chapter III. Their archaic style is not in evidence on these light tetrobols; the advance in technique is comparable to that of the remainder of Group II. The horses are so different from those on the A series of the same denomination that the one unlinked, anepigraphic, obverse die (that of no. 86, PLATE VIII) automatically takes its place in the A series because of the style of the horse.¹³

The style of the octobols (PLATE VII) is very like that of the octadrachms. Nos. 66-68 may well be from a die cut by the artist of the octadrachm, no. 45. There is the same easy pose of both animal

¹³ For a similar horse on a gem in Boston, see Richter, *Animals in Greek Art*, fig. 60.

and man, the same slight forward tilt of the man's head, and the same soft folds of the chlamys at the neck. Nos. 69-72 are more like the octadrachms nos. 47-57, showing a smoothness of modelling, but a certain stiffness of pose. The A dies of the last three octobols, nos. 73-75, present a peculiarity which must be taken in connection with the two octobols illustrated on PLATE VI, a and b, and the octadrachm no. 46. The latter two octobols have their obverses from the same die; one reverse has the Bisaltian ethnic, the other has the name of Mosses.¹⁴

This group of A dies has the lower part of the attendant's chlamys visible below the body of the horse. All three (SA 7, SA 8, and that of the two on PLATE VI, a and b, have various slight differences: that of those on PLATE VI has a small attendant, with a rather long-bodied horse; the composition is not so well fitted to the field. That of no. 73 (SA 7) is the only die either of the octobols or the octadrachms where the attendant is taller than the horse, although the composition as a whole is better than that of the preceding die. The die of nos. 74 and 75 (SA 8) is the best and was, I believe, made by a foreign (southern) artist. It has the

¹⁴ Bisaltian octobols of this style are rather rare. I have been able to find the one illustrated, from Naples, another in Klagenfurt (*AMNG*, Pl. XII, 11), and a third in Cambridge (*McClean Coll.* II, 3105, Pl. 113, 8). The coin of Mosses illustrated on PLATE VI is in Brussels. Gaebler condemns all the Bisaltian octobols of this style: the one in Klagenfurt he lists as a forgery without explanation; the other two he dismisses (*Falsch.* I, 195 ff.) as copies of the Mosses coin and claims that the reverses as well came from that coin, the forger having left the O of the Mosses inscription in that of the Bisaltian. I have not been able to examine the coins, but his arguments lack force. The Bisaltians struck octobols earlier (see Plate II) one of which (*AMNG*, Pl. XII, 8, from Berlin) has the monogram  on the horse's rump. None seems to have been struck beyond the period of the revived tribal alliance in 492 except these listed here. The coins of Mosses, however, show a continuous development which sets them apart from the Bisaltian coins. For this reason, as well as because of the fact that it seems most unrealistic to assume that a ruler issued only small coins in his own name while issuing both large and small in the name of his people, the supposition that Mosses was a ruler of the Bisaltians is unwarranted. He may well have been one of those tribal chieftains mentioned by Thucydides (II, 99) who retained a measure of autonomy while paying tribute to Alexander. A number of his octobols are illustrated in *AMNG*, III, 2, Pl. XXVII, nos. 37-42.

feature that was imitated on the octobols just mentioned, the chlamys hanging below the body of the horse, but it has a refinement which was not appreciated by the imitators. The horse is standing perfectly still; on the small compass of the octobol, this is a neater pose than the one suitable to the octadrachm, where the horse has his left forefoot raised. There is some question whether the arrangement of the octobols is justifiable, since the dies with the long chlamys, one possibly by a Greek, are put last. My confidence in the rapid response of Macedonian die-cutters to outside influence leads me to prefer this arrangement on the ground that the native artists would soon have seen effectiveness of the standing horse and would have made their dies accordingly. Since there is no wear on any of the linking P dies, the order could be changed, but there is no tangible, incontrovertible proof for either arrangement.

The octadrachm, no. 46, which is out of place anywhere in its series, looks like an attempt by a die-cutter who had more courage than skill to reproduce this type variant, for it is closely modelled after the die of nos. 74 and 75. It stands out among the octadrachms and has no compeers among the tetradrachms; its oddness is further emphasized by the fact that the spears are reversed. There is not the slightest reason for condemning the piece, which for all its awkwardness shows the vigor and originality always associated with northern artists, whatever their degree of skill.¹⁵ The arrangement of the octadrachms whereby this coin is placed second in the series may be questioned in view of the fact that the octobols to which it is similar are placed at the end of their series. It has been done because with the exception of no. 45 and it (no. 46), the octadrachms are the work of the Macedonians, among which a little sequence dependent on the few linking dies is possible. Actually, it may be almost contempo-

¹⁵ Cf. Brunn, "Paianios und die nordgriechische Kunst," *Sitzb. Bayer. Akad.*, 1876, I, 1, 315. While it is perhaps erroneous to postulate a "school" in this area, nevertheless the coins show a homogeneous style. For other Greek artists working in the north, cf. the remarks of Casson, *Macedonia, Thrace and Illyria*, pp. 232-233 apropos of the coins of Thasos after 463. Significantly or not, these coins were found in the Tigris river in 1818.

aneous with no. 53, the last before the waning moon symbol is added. The chart of die sequences at the end of Chapter IV shows how little of this series remains; consequently, any arrangement depends on intangibles. In this case, it seemed better to isolate no. 45, which is surely not by a Macedonian, and no. 46, which, although probably native, is quite unlike the others. If more coins come to light, a different order may be possible.

Before considering such meager evidence as there is for the duration of Group II, the relation between the peculiarities of the group and the events occurring in the north should be pointed out. At the beginning of this chapter, reference was made to Cimon's attack on Eion in 476/5;¹⁶ there is no hint in Thucydides' abbreviated "Pentecontaetia" that Alexander was consulted or even informed in advance of Greek plans. The clue pointing in such a direction is the A die of the octadrachm no. 45. Since this obviously influenced the makers of the other dies, it was placed first; it is hard to account for the presence of an Athenian (or other Greek) artist in Macedonia at this time if Alexander was not transacting business with the Greeks and privy in their plans. So far as we know, the two regions were not in close contact with one another so early in the century; it looks as though the plan for the change in denominations and the importation of a southern artist were the result of some sort of planned cooperation between Alexander and the Greeks. In any case, whether these conclusions be justifiable or not – and if they are not, we have to assume that Alexander quite independently decided to be ready to work with the Athenians when they arrived – the coins themselves probably did not appear before Cimon and the fleet were in northern waters. Therefore, it is safe to date the beginning of the group in 476/5. This date (and, consequently, that of the end of Group I, 477/6) and that of the beginning of Group I in 480/79 are the only dates in the coinage of Alexander which can be fixed with any degree of assurance. The date of the end of Group II is hard to define and both beginning and closing date for Group III are somewhat arbitrary, as will be seen in Chapter VII.

¹⁶ See Note 1.

From the coins, it seems that Alexander was reviving some portion, at least, of the old inter-tribal cooperation of the sixth century, which in the years of the Persian advance, notably 492 and following, had become a military alliance – probably only for defensive purpose. He succeeded in influencing the Bisaltians, the tribe over which Mosses ruled, the tribe represented by the H and the “foreign” horse, and possibly even the Edonians, to unite. These latter, who struck coins using the Apollo-Hermes types, lived a little above Eion on the Strymon (Thuc. I, 100); hence they would be concerned with Athenian action so near home. The probability of including the Edonians in the “alliance” is enhanced by the form of the letters on some of their octadrachms. These coins bear on the obverse the variety of the Apollo-Hermes type which shows two oxen and an attendant, who is presumably Hermes;¹⁷ the type is thus similar to the form of the Ares type used always by the Bisaltians, with the ethnic on the obverse, used without an inscription earlier by the Macedonians (see Chapter III), and only here with Alexander’s name. The form¹⁸ of the A in the inscription on the reverse ΓΕΤΑΣ ΒΑΣΙΛΕΟ[Σ] ΗΔΟΝΕΟΝ is the one which displaced the A shortly after 479 on Macedonian coins and on various others in that area, and which is used on the coins of Acanthus, first inscribed at this time.¹⁹ The earlier coins of the Edonians likewise have the form A. It seems fair to conclude that Getas was a ruler of the Edonians contemporary with Alexander, who took part in the renewal of the old alliance revived to give assistance to the Delian League when its contingents moved north.

Some ten years after the liberation of Eion, the Athenians returned to the north to defeat the Thasians who had differed with them about the ownership of the mainland and the mines. Thucydides²⁰ states

¹⁷ With A, Babelon, *Traité*, I, 2, 1458; pl. 45, 7.

¹⁸ With A *BMC Mac.*, p. 144, 1 and 2.

¹⁹ Desneux, *Les Tétradrachmes d'Acanthos*, pl. XIV, 90–92.

²⁰ This passage in Thucydides (I, 100), and another where reference is made to the first colonizing of the site in describing the settlement of Amphipolis in 437 (IV, 102) have been the subject of considerable discussion because of the ambiguity of the

that at the same time the Athenians sent out 10,000 colonists from Athens and the allies to found a colony at Ennea Hodoi, on the Strymon, in Edonian territory. This action is generally dated in 465,²¹ despite the statement of Diodorus that it took place directly after the release of Eion. Thucydides concludes his brief account of the first attempt at colonizing Amphipolis with the statement that the Athenians, after conquering at Ennea Hodoi, went thence inland and were utterly defeated by all the Thracians at Edonian Drabescus. There is no doubt that this abortive colony at Ennea Hodoi was as unpleasing to Alexander as to the Edonians. Of course, his realm did not yet extend beyond the Strymon, and we may be sure that any plans he may have had for such an extension were not known to Getas, but for other Greeks to seize land so close to him was as bad as having Persians in the vicinity. He would have felt doubly insulted, for he claimed Greek ancestry and was accepted as a Greek at the great sanctuaries of Delphi and Olympia.

It is of some significance that Thucydides, for all his brevity, mentions that the land was Edonian, but does not mention the king, and says that all the Thracians defeated the Athenians. In the first chapter, it was pointed out that the term "Thracian" and "Macedonian" were used rather indiscriminately by both Herodotus and Thucydides; thus the wording does not exclude Macedonians from

antecedent of αὐτοί (I, 100) and οἱ (IV, 102). Who actually suffered defeat at the hands of the Thracians at Drabescus – the settlers, or Athenian troops from the scene of the siege of Thasos? Meritt-Wade-Gery-McGregor, *The Athenian Tribute Lists*, III, pp. 106–110, explain the passages sanely, referring αὐτοί in I, 100, and οἱ in IV, 102, to the Athenians, after the defeat of whom the abortive colony at Ennea Hodoi was withdrawn. Following Isocrates (8, 86) both Walker, *CAH*, V, 58, and Gomme, *Commentary on Thucydides*, I, 297, took it to be the settlers. That the military action, as contrasted to the attempted settlement, was undertaken by the military arm is, of course, only logical: Drabescus was at some distance from Ennea Hodoi; the settlers would have no occasion to stray so far inland. Further, Pausanias, I, 29, 4 states that a list of casualties on a stele was the first monument set up by the Athenians for military personnel, in 465/4. This stele is probably *IG I²*, 928, (cf. also *ATL*, III, 259) and confirms the conclusion that the defeat at Drabescus was suffered by Athenian troops, not settlers from Athens and the other allies.

²¹ Cf. Note 1.

participation in the conflict. This is the action of the revived tribal alliance, no longer cooperating with the Delian League, but opposed to its members. That Alexander was the prime mover is to be seen from the coins. The latest of his octadrachms (OA 13, 14, 15) carry in the upper left field the unusual symbol of the waning moon. This I take to be Alexander's way of making known his sentiments to the Athenians, who were at Thasos conducting a siege for two or three years after Drabescus. It was the symbol they had used to mark their defeat of the Persians, interlopers into their world.²² Alexander used their own symbol to mark their defeat as interlopers into his world.²³

A curious aftermath of the two ventures of Cimon in the north comes out in Plutarch,²⁴ where the story of the charge of bribery is told. Plutarch states that when Cimon was accused of treason in 461, one of the charges against him was that he had taken a bribe not to invade Macedonia when he freed Eion. It can be conjectured that the Athenians, who felt keenly the defeat at Drabescus, willfully or otherwise confused the monetary assistance given Cimon by Alexander and the tribes in 476/5, and presumably for some time thereafter, with the continued issue of alliance coins and the defeat at Drabescus. It is in a sense the confirmation of the hypothesis that Alexander led the coalition in 465, since there is no hint in the ancient authorities that the plans of the Athenians in 476 included the annexation of Macedonian territory.

The terminal date for Group II is not readily apparent. I believe that the symbol on the octadrachms is to be dated after 465, but how much longer the issue lasted is quite indeterminable. The number of known dies, die combinations and specimens, and the die sequences cast no light on the matter. The die combinations are as follows:

²² Cf. Seltman, *Athens, its History and Coinage*, Chapter XIV, and *Greek Coins*, 91–92.

²³ It may be mentioned that Walker, *CAH*, V, 58–59, without adducing any evidence from the coins, poses the question: "Can it be that Alexander had a hand in bringing about this disastrous defeat of the Athenians?"

²⁴ Plutarch, *Cimon*, 14, and *Pericles*, 10.

Group II

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<i>Denomination</i>	<i>P Dies</i>	<i>A Dies</i>	<i>Combinations</i>	<i>Specimens</i>
Octadrachms				
without symbol	8	7	9	11
with symbol	4	3	4	4
Tetradrachms				
without letter	3	4	4	8
with letter	3	4	4	10
Octobols	5	8	10	24
Light tetrobols				
with A	6	16	20	29
with H	8	8	12	15
Grand Total	37	50	63	101

The evidence from this chart and from the die sequences (Chapter IV) shows how few remain from the two large denominations. Using as a criterion the proportion of three A dies to one P die (see Chapter IV), one can easily judge how large is the number of missing A dies. There is no clue to the number of missing P dies. If we add to this scanty die survival the circumstance that among the octadrachms one of the three links is that where one A die is used with three P dies (nos. 49-51), a sign of increased mint activity, it becomes clear that we have only fragmentary remains of a heavy issue. The fact that there are only two more specimens than die combinations is another indication that many dies or their combinations are lost. The rate of survival of the tetradrachms is somewhat better: there are eight combinations and eighteen specimens, but no significant links.

The smaller denominations are better represented. The octobols are entirely linked, the links including two occurrences of one P die with three A dies. The rate of twenty-four surviving specimens for ten combinations is quite high. In the two instances where one A die is used with two P dies (nos. 66, 67, and 74, 75) none of the punch dies is worn, which may well mean that they were used simultaneously.

The H series of light tetrobols is almost as unrevealing as the two large denominations: an equal number of both dies and only three more specimens than combinations. However, the die links, with two instances of one A die used with three P dies (nos. 99-101 and 103-105), provide the series with almost complete linkage and furnish the same evidence of heavy striking as was indicated in the octadrachms. The A series of heavy tetrobols shows the clearest signs of heavy minting, and it may be that this issue, which provided convenient Attic change and which was stamped as Alexander's, was more heavily struck than any of the others. Six P dies and eighteen A dies, twenty combinations with twenty-nine specimens, one P die used with five, and another used with six A dies, all indicate a large issue. The incongruity of the evidence is too great for any assumption that all denominations were struck in such quantities as the A series of light tetrobols, and the remains make it difficult to judge the length of the period during which Group II was struck.

Possibly some such conclusion as this might be reached. In 476/5 the issue was begun with octadrachms (without the moon), tetradrachms (probably without the A), octobols, and both series of light tetrobols, the A series in larger numbers than the other.²⁵ At this time also the Bisaltian octobols and those of Mosses were struck.²⁶ About the time of the Thasian revolt (466/5), and the coming of the 10,000 settlers, perhaps shortly before that time if Alexander

²⁵ The two series of light tetrobols are unconnected by P dies. It is impossible to determine whether they were contemporaneous or successive one upon the other. There is no linking die between them, although the style of the helmet on the reverse of both series is quite similar. It seems best to consider them roughly contemporaneous, with the H series perhaps beginning slightly later, when the tribe represented by that series was brought into the alliance; the two series would subsequently be struck simultaneously.

²⁶ Possibly the octobols with Dionysiac types on the obverse and ΒΕΡΓΑΙΟΥ around a four-part linear incuse square on the reverse (*HPM*, pl. X, 32; *BMC Thrace*, p. 205, 1) were struck at the same time, by the people of the town Berga, on the upper Strymon. This place would be vitally affected by an Athenian colony at the mouth of the Strymon. It was tributary to Athens following 454, but was absent from the tribute lists during some of the crucial years before and after the founding of Amphipolis. Cf. Chapter VIII.

heard about Athenian plans for Ennea Hodoi, the issue of octobols ceased and the letter A was added to the tetradrachms. The Bisaltian octobols and those of Mosses probably ceased with those of Alexander, since the need for that denomination had apparently never been very great in the north. The light tetrobols, even though they were the equivalent of the Attic triobol, had always been popular in the area, to judge from remains, and continued to be struck. After Drabescus (465), the waning moon was added to the octadrachms. The terminal date cannot be reached from consideration of such evidence as we now possess. The conjectured date of 460 is merely a suggestion, based partly on the small size of Group III. It is quite possible that Alexander struck no coins at all for some years following the waning moon octadrachms. When the Athenians retired from the north, after the subjection of the Thasians, the country may have been quiet and the currency already in circulation sufficient for local needs.

3. FRACTIONAL ISSUES, PLATE IX, a-e

The fractional issues assigned to Group II are stylistically associated with that Group. Coin a on PLATE IX has as obverse type a horse very like those on the "A" series of light tetrobols such as PLATE VIII, nos. 85-88. The reverse is a four-part linear square in the incuse, with an upright caduceus in the center. None of the other fractions in this group or in Group I has the linear square within the incuse, although the incuse is quadrilaterally divided. The weight of the coin illustrated is 1.99 and others of the same type weigh about the same. This probably should be classed as a triobol on the heavy standard (norm 1.83), but it is to be noticed that many of the light tetrobols in all groups weigh no more than this. In Group II, the only coins in the catalogue which are on the heavy standard are the octadrachms. It is rather surprising to find any small coins at all on that standard during this period.

Coin b, which has a standing horse r., with a leaf above similar to that on the left on the reverse of the tetradrachm no. 15 (PLATE

IV), wt. .93, likewise appears to be on the heavy standard, a trihemibol (norm .91), but since the light norm is .81 for the trihemibol and 1.08 for the diobol, there can be no certainty about the denomination of this piece. Coin c, also a standing horse r., on the obverse, wt. 1.01, is probably the same denomination as b. It will be remarked that the coins here described show the same lack of association of a single type with a single denomination as was the case with the fractions of the first group.

Coin d is the lightest of the fractions in this group, wt. .53, and is certainly an obol, although one cannot specify the norm. This is an interesting type of fraction, the head of a man wearing a petasus. It is probably not intended as portraiture, but rather as shorthand for the warrior-hunter or the attendant of the horse on the larger coins. The occurrence of a head as type on a coin is certainly no rarity, but if its use here has a fractional value, as does the forepart of a horse on other fractions, it is unique as far as I know. The work is neat, although the dotted border is rather heavy, and the four-part incuse on the reverse is as anonymous as ever. Another similar coin, which must lie outside the Macedonian regal issues, should be mentioned. Unassigned, it has a head, wearing a petasus, and to judge from illustrations, it seems to be stylistically quite close to this coin, even in the matter of the rather coarsely dotted circle. The reverse, however, has an elaboration of diagonals and pellets within the four parts of the linear square which is quite foreign to the Macedonian mint. It is best illustrated in G. *AMNG*, III, 2, pl. 26, no. 17, wt. .43. It is conceivable, although incapable of proof, that this is a fractional piece issued by one of the tribes associated with the Macedonians first to aid the Athenians, then to hinder them. The source for the reverse type is unknown, although it could be taken as an elaboration of the reverse on the electrum pieces i and j on PLATE I. So far as I know, it is not used again.

The fifth fractional type on PLATE IX, e, wt. 1.05, perhaps belongs in Group I, since the helmet on the reverse is very like those in that group. It is a light diobol or trihemibol and may be contemporaneous

with PLATE V, e. The obverse type is the same and both reverses, helmet and goat's head, had been associated in Group I with coins of the light standard, the tetradrachms and light tetrobols. Because the execution of the coin, PLATE IX, e, appears better than that of PLATE V, e, it has been assigned to Group II.

CHAPTER VII

GROUP III, CA. 460-451

I. CATALOGUE

Octadrachms, PLATE X

Obverse A I: Mounted warrior-hunter, holding reins and two spears, wearing chlamys, tunic, and petasus.
 A I a: spears in back of horse.
 A I b: spears across body of horse.
 Reverse AA: AΛE/ΞA/ΝΔ/ΡΟ in incuse, around four-part linear square.

OP 19 A 16	108. Obv. A I b, caduceus on horse's rump. Rev. AA.	*a. Berlin (<i>B.B.</i> II, p. 181, 1)	29.09
OP 20 A 17	109. Obv. A I a, dog below horse. Rev. AA.	*a. Gillet Coll. <i>ex Warren</i> 617; <i>ex Sotheby</i> (Montagu) 1896, 207 A die damaged at horse's tail.	26.99
OP 20 A 18	110. Obv. A I a, caduceus on rump, dog below. Rev. AA; die of no. 109.	*a. Berlin (Löbbecke) pierced <i>ZfN</i> , X, 74 "from private collection in Kerch." A die damaged at horse's tail.	28.12
OP 21 A 19	111. Obv. A I a, symbol as on no. 110. Rev. AA.	*a. Paris <i>ex Sotheby</i> , 1904, 51 <i>Rev. Num.</i> 1930, p. 155.	28.95

Tetradrachms, PLATE X

Obverse A II a: Mounted warrior-hunter r., reins in r.h., spears in l.h., wearing chlamys, tunic, and petasus, in linear circle.

A I a: Same type in dotted circular border.

Reverse CC II b: Forepart of goat r.

CC III b: Forepart of goat r., head reverted.

TP 20	112.	Obv. A II a.	*a. Paris (<i>Rev. Num.</i> 1895, p. 236)	13.17
A 21		Rev. CC II b. with AAE in corners.	b. Boston, <i>Warren</i> , 618 <i>ex</i> Greenwell (<i>Num. Chron.</i> 1897, pp. 278-9) (G. <i>Falsch.</i> p. 210, 22.)	13.11
TP 21	113.	Obv. A II a; die of no. 112.	*a. <i>Weber Coll.</i> 2019	13.37
A 21		Rev. CC III a.	P die damaged at horns and linear sq.	
TP 21	114.	Obv. A II a.	a. Vienna	12.62
A 22		Rev. CC III b; die of no. 113.	*b. Paris (<i>BT</i> , IV, 2, 807)	13.25
			c. Cambridge, <i>SNG</i> , IV, 3, 2003	12.48
			Increased damage to P die.	
TP 21	115.	Obv. A II a.	a. Sotheby, 1937, 34	13.35
A 23		Rev. CC III b; die of no. 113.	<i>ex</i> Sotheby (Montagu) 1896, 208	
			b. Naville, 1925, 420	13.60
			c. Boston, <i>Warren</i> 619	13.02
			*d. Gillet Coll.	13.26
			<i>ex Jameson Coll.</i> 971; <i>ex</i> Sotheby, 1904, 53.	
			Increased damage to P die; A die may be A 22 recut, very similar except for hat.	
TP 22	116.	Obv. A II a.	*a. D. M. Robinson Coll.	12.96
A 24		Rev. CC III b, with A in upper l. corner.	<i>ex</i> Cahn, 1951, 238	
			b. Berlin (<i>B.B.</i> II, p. 183, 4) pierced	12.87
TP 23	117.	Obv. A I a.	*a. Munich	12.25
A 25		Rev. CC III b.		

Heavy Tetrobols, PLATE XI

Obverse A I a: Mounted warrior-hunter r., reins in r.h., spears
in l.h., wearing chlamys and petasus, in dotted
circular border.

Reverse BB II: Forepart of lion r., one paw visible, edge of lion dotted; in incuse square.

HP 7 A 12	118. Obv. A I a. Rev. BB II.	*a. London (<i>BMC Mac.</i> p. 161, 19)	2.37
HP 8 A 12	119. Obv. A I a; die of no. 118. Rev. BB II.	a. Cahn, 1930, 1203	2.28
HP 9 A 12	120. Obv. A I a; die of no. 118. Rev. BB II.	*a. Sotheby, 1909, 420	2.39
HP 9 A 13	121. Obv. A I a. Rev. BB II; die of no. 120.	a. Cahn, 1935, 614 *b. Paris (<i>BT</i> , IV, 2, 787) c. <i>McClellan Coll.</i> II, 3278 d. Delepierre Coll. 3316 P die damaged at junction of forepaw and r. edge of incuse.	2.53 2.63 2.51 2.54

Light Tetrobols, PLATE XI

Obverse C II: Horse unattended, in linear circle, exergual line.

Reverse DD II: Crested helmet with cheek and neck pieces in linear square within incuse square.

LP 23 A 35	122. Obv. C II, r. Rev. DD II, r., no linear square.	*a. Paris (<i>BT</i> , IV, 2, 799)	1.97
LP 23 A 36	123. Obv. C II, r. Rev. DD II, r., die of no. 122.	a. <i>Olynthus Ex.</i> III, 75	2.00
LP 24 A 37	124. Obv. C II, r. Rev. DD II, r.	a. Paris	1.90
LP 25 A 38	125. Obv. C II, l. Rev. DD II, l.	*a. Paris	1.85
LP 26 A 39	126. Obv. C II, r. Rev. DD II, r.	*a. London (<i>BMC Mac.</i> p. 159, 7)	1.87

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LP 27 A 40	127. Obv. C II, r. Rev. DD II, r.	a. London (<i>BMC Mac.</i> p. 159, 6)	1.96
LP 27 A 41	128. Obv. C II r. Rev. DD II r.; die of no. 127.	a. Paris (<i>BT</i> , IV, 2, 797) P die damaged r., at linear and incuse square.	2.05
LP 28 A 42	129. Obv. C II, r. Rev. DD II, r.	a. Vienna	2.20
LP 29 A 43	130. Obv. C II, r. Rev. DD II r.	a. Paris	1.80

2. GROUP III, CHRONOLOGY AND SIGNIFICANCE

At the end of Chapter VI, the lack of any evidence for the terminal date of Group II was indicated and the year 460 was proposed as a working date. In the case of the coins that constitute Group III, literary evidence is completely absent regarding any events which might be connected with it, since even the date of Alexander's death is uncertain. It is given as 454 and 451.¹ Consequently, the coins themselves must be the sole source of any information regarding the closing years of Alexander's life.

A glance at PLATES X and XI shows the changes in types and denominations from Group II, and some advancement in style. The latter is not so great as that which separates the two preceding groups from one another and cannot be taken to imply any new influx of outside talent;² the changes in types and denominations are of

¹ Cf. Beloch, *Gr. Gesch.*, III, 2^a, 49–62, for a discussion of the dates of the reigns of Macedonian kings. He dates the death (and accession) of Alexander too late—485–440. Geiger in *RE*, s.v. Makedonien, is more realistic, and his suggestion of 498–4 for the accession of Alexander agrees with coin evidence. A forty-four year reign (Beloch, 50) would bring his death down to ca. 454–450.

² A stylistic feature of all horsemen, except the one on no. 108, must be pointed out. This is the manner of the arrangement of the drapery. In Group I, the two ends of the chlamys, rather pointed, are visible against the body of the horse. In Group II, some effort is made to represent the folds of the garment as it falls from the shoulder. In Group III, however, with the exception noted above, a pattern has been developed which seems to hark back to the archaic "swallow-tail" pattern of drapery. The folds of both front and back edge of the chlamys are symmetrically arranged in duplicate

greater importance. The octadrachms again use the type of Group I (see PLATE III), the heavy tetrobols are struck in place of the octobols, using the types peculiar to this denomination, and the light tetrobols are anepigraphic, with the regular Macedonian horse only. These are strictly national and regal types; there are no tribal issues which compare stylistically with them, such as were struck in the time of Group II.

The style of the group is quite homogeneous and the standard of workmanship high, except among the light tetrobols. The octadrachms, of which only four specimens survive, have the caduceus' head on the rump as a brand, except in no. 109 (PLATE X) and all but no. 108 have a dog below the horse. The one octadrachm in Group I with a dog showed a hound leaping up in front of the horse. Here, the dog is more like a Molossian, though smaller.³ On no. 111, which is a masterpiece of the die-cutter's art, the dog is in much better proportion to the horse and rider than on the other coins. The tetradrachms all have anepigraphic obverses, but two P dies show some inscription. No. 112 has a unique P die, with the first three letters of the king's name in corners of the reverse. The goat's forepart is similar to those of Group II. No. 113, which used the same A die as no. 112, is the first to show the goat's head reverted, a change, but no real improvement in the composition. No. 116 (P 22) has a small A in the upper left corner of the linear square. The heavy tetrobols, whose obverse type is like that of the larger denominations,⁴ reveal the familiarity of the die-cutters with this type, even on the reduced scale necessary for so small a die, but likewise, on the reverses, show

fold. It is less easy to see on the heavy tetrobols although close examination reveals it. Since the various differences from die to die do not permit the supposition that one artist cut all the dies which show this pattern of folds, the conclusion must be reached that, whoever started it, it became immediately popular and was used by all die-cutters. Such careful touches as these make the carelessly prepared dies for the light tetrobols more conspicuous. Perhaps people did not like the idea of falling in with Athenian plans and showed their dislike in this fashion.

³ Cf. Imhoof, *Monn. Gr.*, p. 140, no. 41; *Pollux*, V, 5, 1.

⁴ All the riders are now wearing tunics, except the awkward chap on the octadrachm, no. 108, who looks like a country cousin of the others.

the lack of practice in cutting the lion-forepart type, which had not been used for sixteen or seventeen years. These animals are far cruder than the others of Group III.

The light tetrobols show vagaries of orientation; this never occurred in Group II and in Group I only on the reverse of nos. 39 and 40. The helmets are without nose-pieces and in some cases are rather carelessly cut: some helmets are too large for their square, and the cheek-piece overlaps the linear square. The horses, the regular Macedonian type, show more resemblance to the A series of Group II than to the other horses of Group III. This denomination shows a marked deterioration from the standard of the other coins of the group.

The return to the types and denominations of Group I brings also a renewal of the indication of metrological relationships: the octadrachms and heavy tetrobols have a dotted circular border on the obverse; the tetradrachms and light tetrobols have a linear square within the incuse on the reverse.

The die sequences (Chapter IV) and the following chart of dies, combinations and specimens show what remains of this group.

<i>Denominations</i>	<i>P Dies</i>	<i>A Dies</i>	<i>Combinations</i>	<i>Specimens</i>
Octadrachm	3	4	4	4
Tetradrachm	4	5	6	13
Heavy tetrobol	3	2	4	7
Light tetrobol	7	9	9	9

The octadrachms, as always, are very few. The tetradrachms show the use of one P die with three A dies (nos. 113-115), which indicates normal mint activity. Its sole appearance in either large denomination is in this small group; it is possible that the four punch dies known for this denomination are a large proportion of the original number, since thirteen specimens remain from six combinations. The heavy tetrobols, of which only two anvil dies remain, use one of them with three P dies (nos. 118-120); this has been construed to mean more than normal issuing. It may be that the intermission of the denomi-

nation in Group II created a need for increased output for a short time. Thus far there has been a measure of uniformity in the number of surviving dies, particularly P dies (3, 4, 3); the light tetrobols, however, quite spoil the symmetry. Twice as many P dies and at least twice as many A dies (in the case of the heavy tetrobols, four times as many) remain, with only one specimen of each die combination. In addition, there are only the most fragmentary of die links, whereas in the preceding group the light tetrobol links were the most elaborate yet encountered. It is obvious that any estimation of the duration of Group III must take into account this discrepancy, which indicates that the light tetrobols were struck over a period about twice as long as that of all the other denominations.

The event of greatest importance in the Greek world in the middle of the fifth century was the transfer of the treasury of the League from Delos to Athens in 454 and Athens' consequent superiority in League affairs. The year 454 is also the earlier of the dates given for the death of Alexander (cf. note 1). If a date in the neighborhood of 460 be taken, as suggested, for the beginning of Group III, and if the number of P dies per year be taken as two, as was calculated in Chapter V, twelve P dies would be necessary to cover the period from 460 to 454. In the tetradrachm series, where we have more surviving specimens than in any other denomination, there are four surviving P dies. I suggest that we have remaining about half of the P dies and less than that of the A dies, and that the three largest denominations of Group III were struck between ca. 460 and 454.

The growing Athenian Empire was sufficiently powerful to influence non-members economically, if not politically. Athenian resentment over Drabescus would not have been permitted to interfere with trade, particularly in such a vital matter as timber, which she acquired chiefly from Macedonia. Surely, trade relations with Alexander, who felt himself a Greek, were revived shortly after the Thasian revolt was quelled. One reason for the small size of Group III may be that the financial returns to Alexander from this trade obviated the need for any great number of coins. The slightly heavier

striking of tetrobols, at the beginning of the Group, would be for the purpose of local or regional trade. This leaves out of account the light tetrobols, which, from their remains, seem to have been struck over a longer period than the other denominations.

It will be remembered that the light tetrobols are the equivalent of Attic tetrobols. These, then, would continue to be struck in a time of trade with Athens, when they would serve for small change. The intermission of the tetradrachms, equal to three Attic drachms, resulted from the influx of Athenian money into Macedonia in payment for supplies, and, probably unintentionally at first, fitted in with Athenian plans for a curtailment of any but Attic currency. The decree regulating weights, measures and currency used in the empire, formerly thought to have been enacted in the twenties of the fifth century, has, by the discovery of the Cos fragment, been dated 449/8.⁵ Gardner had anticipated this earlier dating from the evidence of the coins⁶ and E. S. G. Robinson⁷ has since surveyed the Aegean coinages to determine the effectiveness of the decree. He reports a marked diminution of the city and island coinages at least until the middle of the thirties—and, in some cases, longer. By the last quarter of the fifth century, disregard of the decree was rather general. Whether Athens relaxed the terms (which called for the death penalty for violators) or simply was unable to enforce it, the result was the same.

Two points are obvious, although apparently little attention has been paid to the first one. (1). Athens would not have promulgated

⁵ The decree: *IG*, I³, p. 295, vss. 6–23; the Cos fragment: *SEG*, 1949, no. 25; the complete decree, with all fragments assembled: *ATL*, II, D 14. There has been some slight criticism of this date, notably by Tod, *JHS* LXIX (1949), 104–105, but it has been generally accepted. *ATL*, III, 280–284 shows clearly that the decree, which epigraphically must be assigned to a date before 446, falls into place in the events of the mid-fifth century at the year 449/8.

⁶ Gardner, *Hist. of Anct. Coinage*, 227; on 246, he goes on to say that Melian coinage on the Phoenician (Macedonian?) standard, was the only coinage of importance in the Aegean during the period of the League.

⁷ E. S. G. Robinson, "The Athenian Currency Decree and the Coinages of the Allies," *Hesperia*, Suppl. VIII (1949), 324–340.

such a decree, with such a severe penalty for violators, if she had no previous indication that she would be in a position to enforce it; there probably were coercive efforts on her part, which must have met with some success, before she went so far as to issue the decree. (2). While Athens might coax Alexander to use only her currency, she was in no position to compel him to do so. Therefore it appears that Alexander voluntarily suppressed the main part of his coinage in 454 and thereafter struck only the light tetrobols, which could pass as Attic triobols, from that date until his death in 451. Such a *volte face* by the man who flaunted his defeat of the Athenians by the waning moon on his octadrachms only ten years earlier should not be too surprising to an age which has seen and is seeing even more abrupt reversals of policy. At any rate, such an interpretation does take into account the discrepancies in Group III, the likelihood that Athens was working toward making her coinage the only legal tender in the Aegean before she passed the decree to that effect, and the fact that Perdikkas, who succeeded Alexander, struck only these light tetrobols for the first seven or eight years of his reign. It would be interesting to know, but idle to speculate on, what methods of persuasion Athens used on Alexander.

The interpretation just given of the larger issue of light tetrobols in this last group of coins struck by Alexander, makes it necessary to assume that he lived beyond 454, although the king's list (see note 1) indicates that date for his death. The change in the coinage could scarcely have taken place before that date, and comparison of the light tetrobols of this group with those assigned to Perdikkas (compare PLATES XI and XII) shows clearly how different the coins of Perdikkas are. Alexander must have struck them, and the majority at least must have appeared after 454. The year 451 is not impossible as a date for Alexander's death from the point of view of his probable age. The first notice of him, (Herod. V, 17-21) as a young adult, occurs in 514. If he were in the neighborhood of 20 at the time, his death in 451 would be at an age only a little over eighty; this is not at all impossible.

3. FRACTIONS, GROUP III, PLATE XI, a-c

Only three types of fractions can be certainly associated with Group III. Specimens of the three are rare, compared with those in other groups, a fact which may be fortuitous, but which may reflect the already observed small size of Group III. PLATE XI, a, wt. 2.12, from the same pair of dies as a coin in the British Museum, wt. 1.03, is similar in obverse type to the series illustrated by PLATE IX, a. The reverses of these coins have a linear square within the incuse, which most of the fractional issues do not have; that in Group II also has an upright caduceus on the reverse which the Group III coins lack. The weights of these two coins from the same dies, 2.12 and 1.05, show clearly the impossibility of defining the denominations of the fractions.

PLATE XI, b, is a finer version of the head used in Group II, PLATE IX, d. The one illustrated, from the Newell Collection, is from the same pair of dies as one in Copenhagen (SNG, 463); both are nearly the same weight: .56 and .54. This head, in a finely dotted circle, is stylistically superior to the similar coin in Group II and ranks in quality with the head of the rider on the Paris octadrachm, PLATE X, III. The third type (PLATE XI, c), wt. 1.18, is a development from that Group II (PLATE IX, e) with the forepart of a horse on the obverse and a helmet in a linear square in the incuse on the reverse. The helmet is of the sort without a nose-piece that occurs only in Group III; therefore its assignment to this group is definite, whatever the doubts about the coin of similar types assigned to Group II (PLATE IX, e).

The obverse has three pellets in the field below the horse. These pellets are hard to explain: as marks of value they could indicate a triobol or a trihemibol. The weights – 1.18 for the coin illustrated, .99 for a similar coin in the British Museum – are a little high for trihemibols (.81 or .91) but not too high to exceed the bounds of probability. The strange thing is the occurrence of the pellets on coins of this type at one period and nowhere else. Since these small coins would probably have only a local use, their value could easily be regulated by local practice.

CHAPTER VIII

GROUP IV, 451-413 (PERDIKKAS)

I. CATALOGUE.

Light Tetradobols

Obverse	C: Horse unattended r., linear circle and exergual line. C I: Horse walking. C II: Horse prancing. C III: Horse galloping.
Reverse	DD: Helmet with neck and cheek pieces r., in incuse square. DD I: Single linear square. DD II: Double linear square. DD III: Double linear square and inscription ΠΕΡΔΙΚ

First Series, 451/0-447/6, PLATES XI AND XII

LP 30 A 44	131. Obv. C I. Rev. DD I.	*a. Gotha A die break at tail and body.	1.75
LP 31 A 44	132. Obv. C I; die of no. 131. Rev. DD I.	a. <i>Weber Coll.</i> 2014 *b. Naville, 1929, 1133 A die break larger.	2.00 2.06
LP 31 A 45	133. Obv. C I. Rev. DD I; die of no. 132.	*a. Gotha b. <i>Olynthus Ex.</i> XIV, p. 420, 2. c. Cambridge, <i>SNG</i> , IV, 3, 2004.	1.75 1.80 1.98
LP 32 A 46	134. Obv. C I. Rev. DD I.	a. Hess, 1930, 2349	1.92
LP 33 A 47	135. Obv. C I. Rev. DD I.	*a. Cambridge, <i>SNG</i> , IV, 3, 2007	1.96

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LP 34 A 48	136. Obv. C I. Rev. DD I.	*a. Brussels	
LP 35 A 48	137. Obv. C I; die of no. 136. Rev. DD I; hook (?) or very small letter (?) at bottom of helmet.	*a. ANS – ETN <i>ex</i> Schulman, LXII, 151	2.03
LP 36 A 49	138. Obv. C I. Rev. DD I.	*a. ANS – ETN	1.80
LP 37 A 49	139. Obv. C I; die of no. 138. Rev. DD I.	*a. <i>Olynthus Ex.</i> VI, 164 (not in hoard) A die worn at tail of horse.	1.93
LP 38 A 49	140. Obv. C I; die of no. 138. Rev. DD I.	*a. Empedocles Coll. More wear on A die at tail.	2.11
LP 39 A 50	141. Obv. C I. Rev. DD I; helmet very small.	*a. Munich A die worn at tail of horse.	
LP 40 A 51	142. Obv. C I. Rev. DD I.	a. Empedocles Coll.	1.80
LP 41 A 52	143. Obv. C I. Rev. DD I.	*a. London (<i>BMC Mac.</i> p. 159, 6) b. Cambridge, SNG, IV, 3, 2005. A die worn at horse's tail; P die worn at lower l. corner.	1.96 1.80
LP 41 A 53	144. Obv. C I. Rev. DD I; die of no. 143.	*a. ANS – ETN b. Cambridge, SNG, IV, 3, 2006.	1.90 1.93
LP 42 A 54	145. Obv. C I. Rev. DD I.	*a. ANS – ETN P die damaged between neck and cheek pieces.	1.99
LP 43 A 55	146. Obv. C I Rev. DD I.	*a. Munich	
LP 43 A 56	147. Obv. C I. Rev. DD I; die of no. 146.	*a. Helbing, 1928, 3816	1.65

Second Series, 446/5-438/7, PLATE XII

LP 44 A 56	148. Obv. C I; die of no. 147. Rev. DD II.	*a. Ratto, 1927, 511	1.98
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LP 45	149.	Obv. C I.	*a. Copenhagen, SNG, 487	1.84
A 57		Rev. DD II.	<i>ex</i> Lambessis, 1909	
			b. Paris	2.05
			c. Athens, Nat. Mus. 1364	2.00
			d. Riechmann, 1924, 419	1.77
LP 46	150.	Obv. C I.	*a. Paris (BT, I, 2, 1525)	2.04
A 58		Rev. DD II.		
LP 47	151.	Obv. C I.	*a. D. Raymond Coll.	1.95
A 59		Rev. DD II.	b. <i>Olynthus Ex</i> , XIV, p. 420, 3	2.01
			c. Cambridge, SNG, IV, 3, 2009	1.91
LP 48	152.	Obv. C I.	*a. <i>Olynthus Ex</i> . III, 76	1.96
A 60		Rev. DD II.	(not in hoard)	
LP 49	153.	Obv. C I.	a. Vienna (extremely worn)	1.62
A 61		Rev. DD II.	A die broken at tail.	
LP 50	154.	Obv. C I.	*a. ANS – ETN	2.03
A 62		Rev. DD II.		
LP 51	155.	Obv. C I.	*a. Brussels	
A 63		Rev. DD II.		
LP 52	156.	Obv. C I.	*a. Empedocles Coll.	1.92
A 64		Rev. DD II.		
LP 53	157.	Obv. C I.	*a. Paris (de Luynes 1580)	1.92
A 65		Rev. DD II.		
LP 54	158.	Obv. C I.	*a. Paris (BT, IV, 2, 800)	2.07
A 66		Rev. DD II.		
LP 55	159.	Obv. C I.	*a. Boston (C and M 1249)	1.87
A 67		Rev. DD II.	Bartlett Coll., <i>ex</i> Warren, 1903;	
			<i>ex</i> Sotheby 1896, 210.	
			A die broken at tail.	
LP 56	160.	Obv. C I.	*a. Munich	
A 68		Rev. DD II.		
LP 57	161.	Obv. C I.	*a. McClean Coll. II, 3287	1.58
A 69		Rev. DD II.	(Description of this no. in text belongs at no. 3284.)	

Third Series, 437/6–435/4, PLATE XII

LP 58	162.	Obv. C I.	*a. London (<i>BMC Mac.</i> p. 159, 8)	1.67
A 70		Rev. DD II.	b. Naville, 1923, 1338	2.00
			A die small enough to show linear circle on flan; P die also small.	

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LP 58 A 71	163. Obv. C II. Rev. DD II; die of no. 162.	*a. Naville, 1928, 456	1.93
LP 59 A 72	164. Obv. C II. Rev. DD II.	*a. Cahn Coll.	2.05
LP 60 A 73	165. Obv. C I. Rev. DD II; on exergual line.	a. Paris (<i>BT</i> , IV, 2, 802) pierced *b. Copenhagen, <i>SNG</i> , 495 <i>ex Falbe</i>	2.00 2.02
LP 60 A 74	166. Obv. C II. Rev. DD II; die of no. 165.	*a. Berlin (<i>B.B.</i> II, p. 184, 2) b. Delepierre Coll. 910	1.98 2.01
LP 60 A 75	167. Obv. C II. Rev. DD II; die of no. 165.	*a. Berlin	1.92
LP 61 A 76	168. Obv. C II. Rev. DD I.	*a. Gotha, pierced b. Yale Coll.	2.00 1.87
LP 62 A 77	169. Obv. C II. Rev. DD I.	*a. ANS - ETN <i>ex Cahn</i> , 1928, 385	1.73

Fourth Series, 415-413, PLATE XIII

LP 63 A 78	170. Obv. C III. Rev. DD III.	a. Munich, pierced *b. Paris (<i>BT</i> , IV, 2, 803) <i>a</i> may be plated.	1.98
LP 63 A 79	171. Obv. C III. Rev. DD III; die of no. 170.	*a. <i>Weber Coll.</i> 2023 <i>ex Lambros</i> , 1888	1.57
LP 64 A 79	172. Obv. C III; die of no. 171. Rev. DD III.	*a. <i>Olynthus Ex.</i> VI, 165	1.81
LP 64 A 78	173. Obv. C III; die of no. 170. Rev. DD III; die of no. 172.	a. <i>Hunter Coll.</i> I, p. 284, 6, pierced. b. Vienna *c. London (<i>BMC Mac.</i> p. 162, 1)	1.75 1.90 1.99

LP 64	174.	Obv. C III.	*a. Berlin	
A 80		Rev. DD III; die of no. 172.	b. Copenhagen, <i>SNG</i> , 496	1.88
			c. Berlin (<i>B.B.</i> II, p. 184, 1)	1.77
			d. Hirsch (Rhousopoulos) 1905, 1051	1.68
			c is plated and b may be.	
LP 65	175.	Obv. C III.	*a. <i>McClean Coll.</i> II, 3288	1.99
A 81		Rev. DD III.		

Heavy Tetrobols

Obverse A: Mounted warrior-hunter r., on exergual line, dotted circle.

A I: Rider wearing petasus, horse walking, no symbol.

A I a: A I, with flowering plant below horse.

A I b: A I, with dog below horse.

A II: Petasus at nape of neck, horse walking, no symbol.

A II a: A II, with flowering plant below horse.

A III: Rider wearing petasus, horse prancing, no symbol.

A III c: A III, with flowerless plant below horse.

A IV: Petasus at nape of neck, horse prancing, no symbol.

A IV d: A IV, with ♂ below horse.

Reverse BB: Forepart of lion, both forefeet visible, in incuse square.

BB I: Basic type r., edge of lion dotted, no symbol.

BB I a: BB I, with straight caduceus above, pointed r.

BB II: Basic type r., edge of lion a line, no symbol.

BB II a: BB II with straight caduceus above, pointed r.

BB II b: BB II with slanting caduceus above, pointed r.

BB II c: BB II with head of caduceus in upper l. corner.

BB II d: BB II with ΠEP in corners.

BB II e: BB II with Π above or right of lion.

BB III: Basic type l.

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First Series, 443/2-438/7, PLATE XIII

HP 10 A 14	176. Obv. A II. Rev. BB I.	*a. ANS - ETN	2.11
HP 11 A 14	177. Obv. A II; die of no. 176. Rev. BB II.	*a. Gotha	2.30
HP 12 A 14	178. Obv. A II; die of no. 176. Rev. BB II.	*a. <i>Olynthus Ex</i> VI, 150 (Hoard III, very worn)	2.07
HP 13 A 15	179. Obv. A I. Rev. BB I.	a. Delepierre Coll. 2315	2.03
HP 14 A 16	180. Obv. A II. Rev. BB II.	*a. Brussels b. <i>Olynthus Ex.</i> III, 12 (Hoard II, very worn) c. <i>Olynthus Ex.</i> VI, 151 (Hoard III, "worn;" really very worn). A die break begins at r. foreleg in <i>b</i> increases in <i>c</i> .	2.10 2.10
HP 14 A 17	181. Obv. A I. Rev. BB II; die of no. 180.	*a. <i>Jameson Coll.</i> , 972 <i>ex</i> Hirsch, 1906, 367	2.53
HP 14 A 18	182. Obv. A I. Rev. BB II; die of no. 180.	*a. <i>Olynthus Ex.</i> VI, 148 (Hoard V, "smwht.worn;" really very worn)	2.14
HP 15 A 19	183. Obv. A I. Rev. BB II.	a. Copenhagen, SNG, 499 <i>ex</i> Wellenheim, 2402	2.08
HP 16 A 20	184. Obv. A I. Rev. BB II.	*a. Naville, 1923, 1337	2.33
HP 17 A 20	185. Obv. A I; die of no. 184. Rev. BB II.	a. <i>Olynthus Ex.</i> IX, p. 229, 1 b (Hoard VIII, exc. worn) *b. ANS - ETN c. <i>Olynthus Ex.</i> VI, 147 (Hoard III, exc. worn) P die break begins at <i>b</i> .	1.82 2.37 2.14
HP 17 A 21	186. Obv. A I. Rev. BB II; die of no. 185.	*a. <i>Hunter Coll.</i> I, p. 284, 3	2.42

HP 18 A 21	187. Obv. A I; die of no. 186. Rev. BB II.	*a. Vienna, pierced	2.28
HP 19 A 21	188. Obv. A I; die of no. 186. Rev. BB II.	*a. ANS – ETN b. London (<i>BMC Mac.</i> p. 161, 21) (Not well preserved, weight abnormal)	2.27 2.73
HP 19 A 22	189. Obv. A II. Rev. BB II; die of no. 188.	*a. Munich <i>ex</i> Hirsch, 1908, 1173	2.09
HP 18 A 22	190. Obv. A II; die of no. 189. Rev. BB II; die of no. 187.	*a. Munich	
HP 20 A 22	191. Obv. A II; die of no. 189. Rev. BB II.	*a. Empedocles Coll. b. Yale Coll.	2.23 2.35
HP 21 A 23	192. Obv. A I a. Rev. BB II.	a. Helbing, 1932, 568 <i>ex</i> Helbing, 1930, 178	2.00
HP 22 A 24	193. Obv. A I. BB I.	*a. Helbing, 1927, 1687 <i>ex</i> Hirsch, 1914, 282	2.30
HP 23 A 25	194. Obv. A I. Rev. BB II d.	*a. London <i>ex</i> Weber Coll. 2022; <i>ex</i> Whittall, 1884, 419	2.38

Second Series, 437/6–432/1, PLATES XIII–XV

HP 24a A 26a	195. Obv. A I. Rev. BB I.	a. Mavrogordato Coll. 253 (<i>HPM</i> , Pl. VIII, 18) *b. Copenhagen, <i>SNG</i> , 498 <i>ex</i> Lambros, 1902	2.37 2.12
HP 24a A 26b	196. Obv. A I. Rev. BB I; die of no. 195.	a. Hirsch (Rhousopoulos) 1905, 298 *b. <i>Olynthus Ex.</i> IX, p. 229, 1 a (Not in hoard) c. <i>Olynthus Ex.</i> III, 13 (Hoard II, exc. worn)	2.29 2.30 2.05

HP 24a A 27a	197. Obv. A III. Rev. BB I; die of no. 195.	*a. Cahn, 1952, list 115, 124	
HP 24b A 26c	198. Obv. A II a. Rev. BB III.	*a. London (<i>BMC Mac.</i> p. 161, 20)	2.10
HP 24b A 27b	199. Obv. A III. Rev. BB III; die of no. 198.	*a. <i>Olynthus Ex.</i> IX, p. 230, 7 (Hoard VIII, very worn)	1.99
HP 24c A 26d	200. Obv. A I b. Rev. BB I a.	*a. London, (<i>BMC Mac.</i> p. 161, 25) pierced b. Copenhagen, <i>SNG</i> , 500 <i>ex</i> Seltman, 1910 c. <i>Olynthus Ex.</i> IX, p. 230, 2 (Hoard VIII, worn)	2.29 2.34 1.98
HP 24c A 27c	201. Obv. A III. Rev. BB I a; die of no. 200.	a. Munich, pierced *b. <i>Olynthus Ex.</i> VI, 161 (Not in hoard) A die break at horse's l. fore- foot.	2.32
HP 24c A 27d	202. Obv. A III. Rev. BB II a; die of no. 200.	*a. Cahn, 1935, 615	2.36
HP 24d A 26e	203. Obv. A I. Rev. BB II a.	a. <i>Olynthus Ex.</i> XIV, p. 420, 1 b. <i>Olynthus Ex.</i> VI, 153 (Hoard III, very worn) *c. London d. <i>Olynthus Ex.</i> VI, 154 (Hoard III, very worn) e. <i>Olynthus Ex.</i> VI, 152 (Hoard III, very worn) At b A die breaks at horse's tail; break increases in c, d, and e.	1.93 2.25 2.11 2.17 2.33
HP 24d A 27e	204. Obv. A III. Rev. BB II a; die of no. 203.	*a. Copenhagen, <i>SNG</i> , 501 <i>ex</i> Lambros, 1890	2.24
HP 25a A 27e	205. Obv. A III; die of no. 204. Rev. BB II b.	a. <i>Olynthus Ex.</i> III, 77 (Not in hoard) b. Paris, pierced *c. Brussels d. Glendining, Seaby, 1927, 598 At a A die break starts at r. forefoot.	2.24 2.41 2.26

HP 25b A 27e	206. Obv. A III; die of no. 204. Rev. BB II a.	*a. <i>Olynthus Ex.</i> VI, 160 (Hoard III, worn) A die used without repair with new P die.	2.21
HP 25b A 28a	207. Obv. A III. Rev BB II a; die of no. 206.	*a. ANS – ETN <i>ex</i> Bougeroll Coll., 1909, 201	2.41
HP 25c A 28a	208. Obv. A III; die of no. 207. Rev. BB II.	*a. <i>Olynthus Ex.</i> III, 17 (Hoard II, very worn)	2.30
HP 24e A 26f	209. Obv. A II a. Rev. BB II.	*a. Vienna b. Cahn Coll. A die broken at tail.	2.38
HP 24f A 27f	210. Obv. A III c. Rev. BB II e.	*a. Vienna <i>ex</i> Egger, 1912, 547	2.28
HP 24f A 26f	211. Obv II a; die of no. 209. Rev. BB II e; die of no. 210.	*a. Ratto, 1927, 514 b. <i>Olynthus Ex.</i> IX, p. 230, 3 (Hoard VIII, very worn) A die break larger.	2.52 2.49
HP 24e A 27f	212. Obv. A III c; die of no. 210. Rev. BB II; die of no. 209.	*a. Munich A die shows wear at tail and rump; P die shows wear at paws and jaw.	
HP 24e A 27g	213. Obv. A III c. Rev. BB II; die of no. 209.	*a. ANS – ETN P die shows more wear.	2.41
HP 25d A 27g	214. Obv. A III c; die of no. 213. Rev. BB II c.	*a. <i>Olynthus Ex.</i> VI, 155 (Hoard III, very worn)	2.20
HP 25d A 28b	215. Obv. A III. Rev. BB II c; die of no. 214.	*a. ANS – ETN b. Sotheby, 1910, 57	2.40 2.33
HP 24e A 27h	216. Obv. A IV d. Rev. BB II; die of no. 209.	*a. Berlin (<i>B.B.</i> II, p. 184, 3) P die shows greater wear.	2.33

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- HP 25e A 27h** **217.** Obv. A IV d; die of no. 216.
Rev. BB II.
- *a. London (*BMC Mac.* p. 161, 27) 2.24 (obv.)
*b. *Olynthus Ex.* IX, p. 230, 6 2.26 (rev.)
(Hoard VII, worn)
P die shows original miscutting at top.
- HP 25e A 28c** **218.** Obv. A III c.
Rev. BB II; die of no. 217.
- *a. Vienna 2.28
- HP 25e A 28d** **219.** Obv. A III c.
Rev. BB II; die of no. 217.
- a. ANS - ETN 2.35
*b. London 2.31
c. *Hunter Coll.* I, p. 284, 4, 2.42 pierced.
d. *Olynthus Ex.* IX, p. 230, 5 2.25 (Hoard VIII, worn)
e. *Olynthus Ex.* VI, 156 2.41 (Hoard V, smwht. worn)
f. Empedocles Coll. 2.31
ex Weber Coll. 2021; *ex* Whittall, 1884
g. *Olynthus Ex.* III, 14 2.19 (Hoard II, exc. worn)
- HP 24g A 26g** **220.** Obv. A I.
Rev. BB I.
- *a. Hamburger, 1928, 24
- HP 24g A 27i** **221.** Obv. A III.
Rev. BB I; die of no. 220.
- *a. Ratto, 1929, 238 2.22
ex Naville, 1928, 458
- HP 25f A 28e** **222.** Obv. A III.
Rev. BB I.
- a. Sotheby, 1904, 60
*b. ANS - ETN 2.40
c. *Olynthus Ex.* VI, 158 2.24 (Hoard III, very worn)
d. Ratto, 1927, 516 2.34
A die broken where spears appear behind rider's body; at *d* break behind forefeet.
- HP 25f A 27i** **223.** Obv. A III; die of no. 221.
Rev. BB I; die of no. 222.
- *a. *Olynthus Ex.* III, 18 1.75 (Hoard II, exc. worn)

20

HP 25g A 27i	224. Obv. A III; die of no. 221. Rev BB II.	*a. Munich	
HP 26a A 28e	225. Obv. A III; die of no. 222. Rev. BB I.	*a. London (<i>BMC Mac.</i> p. 161, 28)	2.26
		Lower A die break larger.	
HP 26b A 28e	226. Obv. A III; die of no. 222. Rev. BB I.	a. <i>Olynthus Ex.</i> IX, p. 230, 4 f	2.23
		*b. <i>Olynthus Ex.</i> VI, 157	2.38
		(Hoard V, smwht. worn)	
		c. Hirsch, 1913, 629	2.38
		ex Hirsch, 1911, 454; ex Hirsch, 1909, 469	
		Lower A die break has spread under horse's belly.	
HP 24g A 26h	227. Obv. A I. Rev. BB I; die of no. 220.	*a. ANS - ETN	2.38
		b. London (<i>BMC Mac.</i> p. 161, 22)	2.22
		c. Paris (<i>BT</i> , I, 2, 1538)	2.26
		d. Paris (<i>BT</i> , IV, 2, 788)	2.28
HP 24g A 27j	228. Obv. A III c. Rev. BB I; die of no. 220.	*a. Munich	
HP 25g A 27j	229. Obv. A III c; die of no. 228. Rev. BB II; die of no. 224.	*a. Empedocles Coll.	2.01
HP 25h A 27j	230. Obv. A III c; die of no. 228. Rev. BB II.	a. Copenhagen, <i>SNG</i> , 502, pierced	2.26
		ex Falbe, 1829, 32	
		*b. London (<i>BMC Mac.</i> p. 161, 26)	2.31
HP 25g A 28f	231. Obv. A III. Rev. BB II; die of no. 224.	*a. Cambridge, <i>SNG</i> , IV, 3, 2010	2.17
HP 25h A 28f	232. Obv. A III; die of no. 231. Rev. BB II; die of no. 230.	*a. <i>Olynthus Ex.</i> IX, p. 230, 4 c	2.19
		.	
HP 25h A 28g	233. Obv. A III c. Rev. BB II; die of no. 230.	*a. <i>Olynthus Ex.</i> VI, 162	2.48

Third Series, 431/0-ca.425/4, PLATE XV

HP 27 A 29	234. Obv. A III. Rev. BB II c.	*a. Cambridge, SNG, IV, 3, 2011	2.09
HP 28 A 30	235. Obv. A III. Rev. BB I a.	a. <i>Olynthus Ex.</i> VI, 163 (Not in hoard) b. <i>Olynthus Ex.</i> IX, p. 230, 4 b (Hoard VIII, very worn) *c. Munich, pierced P die shows wear in lower r. corner at c.	2.29 2.13
HP 28 A 31	236. Obv. A III. Rev. BB I a; die of no. 235.	a. London (<i>BMC Mac.</i> p. 161, 29) *b. Empedocles Coll. <i>ex</i> Naville, 1921, 827 P die broken at edges of incuse.	2.25 2.43
HP 29 A 32	237. Obv. A III. Rev. BB II a.	*a. Vienna	1.95
HP 29 A 33	238. Obv. A. III. Rev. BB II a; die of no. 237.	*a. Paris (<i>BT</i> , IV, 2, 794)	2.41
HP 30 A 34	239. Obv. A III c. Rev. BB II.	*a. Paris (<i>BT</i> , IV, 2, 793)	2.10
HP 31 A 35	240. Obv. A III c. Rev. BB II.	*a. <i>Olynthus Ex.</i> III, 15 (Hoard II, very worn)	2.04
HP 32 A 36	241. Obv. A III. Rev. BB II.	*a. ANS – ETN	2.06
HP 33 A 37	242. Obv. A III. Rev. BB II.	a. <i>Olynthus Ex.</i> III, 16 (Hoard II, very worn) *b. <i>Olynthus Ex.</i> IX, p. 230, 4 a (Hoard VIII, worn) c. <i>Olynthus Ex.</i> IX, p. 230, 4 e (Hoard VIII, exc. worn)	2.26 2.26 2.29
HP 34 A 38	243. Obv. A III. Rev. BB II.	*a. <i>Olynthus Ex.</i> IX, p. 230, 4 d (Hoard VIII, exc. worn)	2.00
HP 35 A 38	244. Obv. A III; die of no. 243. Rev. BB II.	*a. <i>Olynthus Ex.</i> VI, 159 (Hoard III, exc. worn)	2.16
HP 36 A 39	245. Obv. A IV. Rev. BB II.	a. Larosière Coll. <i>ex de Nanteuil Coll.</i> 789	2.10

10*

2. CHRONOLOGY AND SIGNIFICANCE

While the literary evidence for the reign of Perdikkas is not so meager as that for Alexander's, such notices as there are, mainly in Thucydides,¹ do not completely clarify his actions. From scattered sources comes knowledge of four brothers, two of whom, Philip and Alketas, had some claims to a share in the kingdom.² There have been suggestions that in turn they held the power at the beginning of the years generally assigned to Perdikkas, but there is no concrete evidence and the coins do not indicate that anyone but Perdikkas was supreme. As the events recorded by Thucydides concern only the years immediately before and during the Peloponnesian War, there is a lacuna of some fifteen years at the beginning of Perdikkas' reign. Probably the earliest datable reference of Thucydides is in I, 57, when in 433 Corinth enlisted the aid of Perdikkas "who was formerly friend and ally of the Athenians." On the basis of the "formerly" in the statement, *ATL*, III, p. 313 and note 61 assigns the treaty between Athens and Perdikkas and his relatives (*IG I*² 71) to the year 436, on the ground that the foundation of Amphipolis in 437 would make for friendly relations, or at least would make it advisable for Perdikkas to come to terms with the Athenians. But, "formerly" is a vague term and the evidence of Perdikkas' coinage at the time of the foundation of Amphipolis is strongly against the likelihood that he came to terms with the Athenians at that time.

Between Perdikkas' accession in 451³ and the year 433 there is only one datable reference, in Strabo (X, 445), who tells of the reception by Perdikkas of refugees from Histiaea in 446/5, "by agreement," the terms of which and its participants are unknown. Two conclusions are to be drawn, (1) that within five years of his

¹ I, 56-66, *passim*; II, 95-101; IV, 70-110, *passim*.

² Alketas: Plato, *Gorgias*, 471 a and b; Aelian, *V. H.* II, 41; *IG I*² 71. Amyntas: Syncell., *FHG*, III, 691; "all his life a private citizen;" Menelaos (note the Homeric, Argive name): Aelian *V. H.* XII, 43; *IG I*² 71; Philip: Thuc. I, 57, 3; II, 95, 2; *IG I*² 71.

³ This date for the accession of Perdikkas is preferable to 454 (see Chapter VII), and to others in the forties of the fifth century, since there is no evidence that he did not directly succeed Alexander.

accession Perdikkas was sole ruler, whatever difficulties he may have had attaining that status, and (2) that he was, if not actively unfriendly to Athens, at least willing to succor her victims. About the same time it is generally concluded⁴ the foundation of Brea, "among the Bisaltians"⁵ by soldiers from the campaign in Euboea, was being made. Nothing is known of the exact location of the town nor of the length of its existence. Its proximity to Argilus, on the very borders of Macedonia, is deduced from the fact that Argilus' tribute was reduced in 446/5, probably as the result of loss of territory.⁶ This event was of great importance to Perdikkas, for the territory of the Bisaltians was actually or prospectively his, and henceforth we might well expect hostility toward Athens on his part. Therefore I should be inclined to date *IG I² 71* to this time, accepting the new restoration which includes the names of Perdikkas and his son Archelaus, Philip and his son Amyntas, Menelaos, and Alketas. It may be the agreement Strabo mentions in connection with the refugees from Histiaea, and this the price Athens paid for the settlement at Brea. Or it may be that because Perdikkas did take in the refugees he was able to force the Athenians to withdraw the cleruchs from Brea. The inclusion of the names of the Macedonian princes, after that of Perdikkas and his son, as well as that of Arrhibaios of Lyncestis, if the new restoration is correct, should point to a time when Athens was content with the supremacy of Perdikkas over his brothers and when Macedonian dynastic troubles were at least temporarily settled.

While the coins of Perdikkas do not reveal all the events of his reign, they furnish an illuminating commentary on his relations with Athens before the beginning of the Peloponnesian War. Before the death of Alexander we saw the once rich and varied Macedonian coinage dwindle to a mere trickle of rather carelessly struck light tetrobols, equal in weight to Attic triobols. The suggestion was made

⁴ *ATL* III, 284–5, 289; Gomme, *Commentary on Thucydides*, I, 277, note 2.

⁵ The statement in Plutarch, *Pericles*, 11, 5, that he (Pericles) settled cleruchs among the Bisaltians, is generally taken to refer to the colony at Brea.

⁶ Cf. *ATL* III, 289.

in Chapter VII that this phenomenon was the result of cooperation between Alexander and the Athenians, the cause for which remains obscure. Perdikkas, coming to the throne at least two years before the promulgation of the Athenian currency decree⁷, and beset by the efforts of various of his brothers to secure a share of the kingdom, continued the latest monetary policy of his father for the first years of his reign.

Whatever the confusion at the beginning of his reign and whatever measure of independence his brothers may have had, Perdikkas must have held the core of the kingdom and control of the metal supply. There were mines, Mt. Dysoron and others,⁸ on the Macedonian side of the Strymon, which would be accessible to him; he may also have had control of the mines in the interior from which the metal for the coinage of Damastion⁹ was later drawn. Recently Giesecke¹⁰ has attempted to assign to Alketas those tetradrachms with A on their obverse, explaining their standard as one deliberately adopted to conflict with that used by Perdikkas. That assignment is manifestly impossible, since those tetradrachms belong in Group II of Alexander's coinage. The first series of (light) tetrobols assignable to Perdikkas, nos. 131-147, is completely anepigraphic; on that score there might be some doubt that he issued them.¹¹ On the other hand, if anyone else undertook to start coining in opposition to Perdikkas, that one at least, if not Perdikkas as well, would be sure to identify his issues. There is no indication from the coins that the Macedonian mint was ever out of the control of Perdikkas.

The separation into groups which was made possible by the changes in style, denominations, and types of Alexander's coins is impossible

⁷ This decree, D 14 in *ATL* II, is now quite generally accepted as being dated ca. 449.

⁸ Cf. Herod. V, 17, 2. I believe that the ὕστερον in Herodotus' statement refers not to "later" acquisition of the mines by Alexander, but to "later" increased production.

⁹ Cf. May, *Coinage of Damastion*, 29-36.

¹⁰ Giesecke, *Ham. Beit. f. Num.* III (1949) 11.

¹¹ This is not the whole story: the linking A die, which joins Series 1 to Series 2, and the homogeneity of style prevent the detachment of any of these coins from the authority of Perdikkas.

for the coins of Perdikkas. He struck no large coins, an almost incredible performance for a reign of nearly forty years. He used the two tetrobol denominations, starting with the light (the Attic triobol) and finally ending with it; the heavy tetrobols were struck at first concurrently with the light, then alone for about ten years, after which time they were abandoned. There are four Series of light tetrobols and three of the heavy tetrobols, with only one date in common. Therefore the light tetrobols have been catalogued first, in their Series, even though they overlap the first heavy tetrobols and follow the last of them. The dates given the seven Series were arrived at through a consideration of dies and their combinations and the historical content of the coins. The evidence furnished by the coins from Olynthus¹² is of particular importance for its bearing on the arrangement of Perdikkas' coins, for the foundation of the Chalcidic League and for the relations between the League and Macedonia.

	<i>Light tetrobols</i>	<i>Heavy tetrobols</i>
Series 1.	451/0-447/6	
Series 2.	446/5-438/7	
		Series 1. 445/4-438/7
Series 3.	437/6-435/4	Series 2. 437/6-432/1
		Series 3. 431/0-425/4
Series 4.	415/4-414/3	

The light tetrobol Series are marked by rather slight differences in type, and seem to have followed directly on one another, with the exception of Series 4. This small issue was struck after an interval during which the mint was closed, and the style was changed completely. The first two Series are connected by an A die; they are separated by a change of type of the P die. Both Series have few die combinations and specimens, while the third and fourth both are more compact. The opposite is the case with the heavy tetrobols: the

¹² The great debt I owe to David M. Robinson is only in part due to his generosity in making available to me all relevant material from Olynthus, long before its final publication.

first two Series have a considerable number of die combinations and many more specimens; the last is less well represented.

A. Light Tetrobols, Series 1 and 2, PLATES XI AND XII.

The first Series, nos. 131-147, is characterized by a neat but undistinguished horse on the obverse and a helmet in a single linear square within the incuse on the reverse. The helmet lacks completely the angularity of those on Alexander's coins, and its crest is attached only on the top of the bowl, with a free hanging plume at the back. This is a rather monotonous succession of coins, with very little difference between the individual dies and with no symbols or initials. They are lacking in the careless irregularity of the last light tetrobols issued by Alexander, but they are pedestrian in the extreme. The surviving links indicate that this Series was struck rather heavily. While none shows the characteristic pattern of three A dies with one P die,¹³ nos. 138-140 show the use of one A die with three P dies, none of which shows any appreciable sign of wear. Consequently we may conclude that these coins were struck at double the usual rate, using at least three P dies per year. Since fourteen P dies, with thirteen A dies, survive, a minimum of five years is postulated for Series 1, and the terminal date set at 447/6¹⁴.

The second Series, nos. 148-161, must have followed directly on the first, since A 56 is used with nos. 147 and 148. This is the only link in the Series. The features which characterize these coins are the introduction of the double linear square on the reverse (which continues in the other two Series) and a considerably smaller, almost a dainty helmet. On the reverse the variation from die to die is more pronounced than on Series 1, but on the obverses the horses show no change from the earlier uninspired animals. Both obverse and reverse

¹³ For evidence that this was the normal procedure for the Macedonian mint see Chapter IV.

¹⁴ This is nearly double the normal rate. These calculations are based on the assumption that proportionally more dies survive from the coins of Perdikkas than from those of Alexander.

continue without symbol or initial. With no linking P dies as a guide, there is no clue from die sequence for the arrangement of this Series, which therefore is subject to change with the discovery of additional coins. Likewise there is no indication of the period of time over which it was struck. It obviously lasted longer than the first, since there is the same number of P dies (fourteen), one more A die (fourteen), and no links. However, the date of the beginning of Series 3 and of the closely related Series 2 of the heavy tetrobols is quite securely fixed at 437/6, so that the terminal date of Series 2 must be 438/7. This nine-year period, from which there remain fourteen unlinked P dies, must then have been marked by the same heavy striking of which traces remain from Series 1, because at the normal rate of two P dies per year not quite eighteen of them would be necessary. We must assume that a number of P dies must be missing, but not necessarily many A dies.¹⁵

B. Light Tetrobols, Series 4, PLATE XIII

415/4-414/3

Series 3 is so involved with the Second Series of heavy tetrobols that discussion of it is better postponed. The final Series of light tetrobols, nos. 170-175, is quite different from all the others and can only have been struck after an appreciable lapse of time. This is apparent from the style of the galloping horses, which in pose and anatomy resemble some of those on the Parthenon frieze and are quite unlike the rather rangy Macedonian steeds. The reverses have an elegant helmet with a luxuriantly curling plume, the double linear square, and as many letters of Perdikkas' name as can be crowded into the remaining crevices and crannies. The design is pleasing, if ornate, but both obverse and reverse lack the vigor and individuality

¹⁵ I have been unable to make use of a number of tetrobols from the Rhousopoulos Collection which Dr. Hirsch has in storage in Geneva. If at some future date these coins become accessible to me it may be possible to confirm, or to change, the present arrangement of the coins of Group IV.

which thus far have characterized Macedonian coin types. The die sequence indicates that they were struck heavily and the small number of dies (three P and four A) shows that this Series was very short-lived. It has been assigned to the closing years of Perdikkas' life, 415-413, when he was finally forced to assist Athens in one more attempt on Amphipolis.¹⁶

While Perdikkas struck these coins of the weight of Attic triobols at the beginning and at the end of his reign, there was a period of some twenty years when they were intermitted, ca. 435/4-416/5. Shortly before the intermission he began to issue heavy tetrobols (2.45) which had last been struck by his father before 454 (cf. Chapter VII). The two denominations were thus struck concurrently for a time, possibly as long as ten years, while the heavy tetrobols alone were issued between 435/4 and ca. 425/4. Apparently there was a complete cessation of Macedonian mint activity during the years 425-416. It is safe to conclude that the coins reflect Perdikkas' relations with Athens: at the beginning of his reign and at its end he fitted his currency to the Attic. From the time of the founding of Amphipolis he concentrated on an issue which was impossible to exchange with the Attic. It is most unlikely that *IG I² 71* is to be dated during that period.

C. Heavy Tetrobols

The type of the heavy tetrobols was the same under Perdikkas as it had been under Alexander: horse and rider in a dotted circular border

¹⁶ In this last Series there is one plated coin, no. 174 c; two others, nos. 174 b and 170 a, may be plated. The two plated coins associated with Alexander's Group I, no. 22 a and b, could not certainly be identified with official dies. The case is different with these plated coins of Perdikkas. Polyaeus, IV, 102, who is of course late and therefore not above a certain amount of suspicion, says that Perdikkas, when making war, used bronze coins because he lacked silver. There are no bronze coins attributable to him. If this Perdikkas is the one to whom Polyaeus refers (and he seems to be), these plated coins may well be the cause for his comment. There is no way of knowing the reason for his lack of silver; perhaps his enemies got possession of his source of supply in the interior.

on the obverse and the forepart of a lion on the reverse. The obverse type was from the tribal alliance, the reverse a regal Macedonian type. The appearance of these coins signals the end of the period of any rapprochement between Perdikkas and Athens, and with the second Series of them the aim of Perdikkas was clarified, for his use of symbols harking back to the period of the tribal alliance must be taken as a deliberate attempt on the part of the Macedonian to foment opposition to Athenian imperialistic policy. It is worthy of notice that as Macedonia had been the first to aid Athenian financial policy by subordinating its currency to the Attic, so it was the first to break away, although of course there could have been no compulsion in its subordination.

Series I, ca. 445/4-438/7, PLATES XIII AND XIV

The first Series of heavy tetrobols, nos. 176-194, exhibits only a slight advance in style over those last issued by Alexander some ten years before.¹⁷ At the end of the Series symbols begin to appear: no. 192 has a flowering plant below the horse, a symbol which was used on the sixth century Goat Staters of Aegae and on many of the other tribal issues. No. 194 has ΓΕΡ on the reverse. It will be remembered that the earliest heavy tetrobols struck by Alexander (Group I, nos. 23 and 24) bore his name on the reverse, and that it was consistently the reverse of the octadrachms, the large denomination related to the heavy tetrobols. The fourteen P dies and seventeen A dies (nineteen combinations, twenty-five specimens) show only one instance of one P die with three A dies (nos. 180-182), the normal

¹⁷ The horses and their riders are not so stereotyped as the horses on the light tetrobols. One whimsical touch appears from time to time: the Catalogue Types A II and A IV indicate a rider with his petasus at the nape of his neck. This touch is used earlier on some of the octobols struck by Mosses (cf. *AMNG* III, 2, pl. 27, 39), where the man is standing beside his horse, and on many coins from Thessaly (Pherae, Larissa, etc.). In the case of the latter coins, where there are signs of a struggle between man and horse, the detail may have been meant to emphasize the effort of the man. On the coins of Mosses and here the effect is rather one of charming informality. Cf. Pls. XIII, 176-180, 189-191; XIV, 198, 200, 216-217.

mint procedure, and three instances of one A die with three P dies, indicating increased mint activity. At least five years of striking are indicated by the surviving dies; since there are five unlinked die combinations eight years have been allowed for it, 445/4–438/7. The terminal date cannot be lowered because the content of Series 2 indicates that *it* must have begun in 437/6. The year 445/4 is that following the reception of the Histiaean refugees and is close to the time of the foundation of Brea (cf. note 4). In 443/2 both Berga and Tragilus¹⁸ were absent from the full panel, while Argilus, whose tribute had been reduced in 446/5, paid the smaller amount. Although the sequence of events is not clear it can be conjectured that Perdikkas did not long feel himself bound by the treaty with the Athenians, *IG I² 71*, whether it was signed before or after the foundation of Brea, and began his efforts to stir up opposition to Athens on the edges of his kingdom, first near the Strymon.

Series 2, 437/6–432/1, PLATES XIV AND XV

Series 2, nos. 195–233, is an intricate group of linking dies as interesting as intricate. It consists of seventeen P dies and twenty-five A dies in thirty-nine combinations; there are seventy-one specimens. The intricacy of the links is such that special charts have been added at the end of Chapter IV in an attempt to show the details. The obverse type changes from a walking horse with its rider to a gaily prancing one. The horse is still Macedonian, not the “foreign” horse of the Group II light tetrobols with H, but the change serves to point up the attempt at tribal solidarity, further emphasized by the addition of symbols to obverse and reverse. These latter are the caduceus, a survival from the Apollo-Hermes tribal type, which had been used as a symbol by Alexander; the flowering or flowerless plant, also a sixth century tribal symbol, and the dog, which had appeared on coins of Alexander. Other dies bear Perdikkas’ initial or the first

¹⁸ Berga, *ATL*, I, 244–5; Tragilus, *ATL*, I, 426–7.

letters of his name. These symbols must be taken as propaganda and Perdikkas' purpose nearly the same as that of Alexander in the seventies and sixties of the fifth century, but with a slight difference. Where Alexander was assuredly master in his kingdom and could afford to suppress strictly regal types such as the lion, Perdikkas had rival claimants to his throne, claimants who were even then working for the support of Athens against him. Therefore he could not afford to leave the royal lion off of his coins. And, where Alexander had first revived the tribal alliance to assist the Greeks in their pursuit of lagging Persians and only turned against the Athenians when they attempted a settlement at Ennea Hodoi, Perdikkas was working to enlist tribal support solely against Athenian imperialism. In both cases Athenian encroachments on Macedonian territory roused the ruling monarch to unite his neighbors against them.

The unprecedented scale of mint activity at this time is shown by the fact that there are seven P dies which serve as links between the walking and prancing horse types. Since none of the eight A dies with the walking horse used with these linking P dies shows any sign of wear, we may draw two conclusions: (1) The walking horse type must itself have been struck heavily to have eight dies in simultaneous use and (2) the type must have been abandoned instantaneously without waiting until the A dies wore out. It is not safe to conclude that mint activity increased still further with the use of the prancing horse A dies because ten of them survive with the linking punches; there may easily be two missing walking horse A dies. We can be content with the concrete evidence of seven P dies in use at once, a condition for which I can find no parallel in other mints.

This sudden phenomenal activity is to be associated with the Athenian foundation of Amphipolis. Nothing else would so arouse Perdikkas, for the location of the town was of as much importance to him as that of Ennea Hodoi had been to his father. Athenian interest in rivals for his throne, by which means Athens undoubtedly sought to distract Perdikkas, would certainly aggravate his antipathy. Since the mere striking of a lot of coins would not be more than a

gadfly to Athens, it is obvious that this is only one phase of his activity. He countered Athens' move by urging and assisting the Chalcidians to federate and establish a stronghold near him. In addition to releasing land to them (Thuc. I, 58) he furnished them monetary assistance with the coins of Series 2.

The third Series of light tetrobols is marked by the same change of obverse type, although there are no signs of such feverish haste in issuing these coins. In fact, the Series ended very shortly after the change was made. The beginning of it must be dated to 437/6, with that of the corresponding heavy tetrobols. The paucity of dies (five P dies, eight A dies, eight combinations and twelve surviving specimens) shows that it probably ceased by 435/4, the same year that Argilus, Olynthus and Tragilus all were absent from the full panel. The end of this Series marks the end of Macedonian financial cooperation with Athens for a period of twenty years.

The short series of Olynthian coins, on the same standard as the Macedonian and showing the same shift of obverse type from a standing horse to a prancing one, which has generally been dated to the thirties of the fifth century¹⁹ must also be dated to the same time as the similar coins of Perdikkas. The known specimens of these coins have been catalogued by Robinson and Clement.²⁰ Their die sequence shows the use of one P die with three A dies, which was the sign of normal production in the Macedonian mint. Their fabric, the form of the punch die,²¹ their change of obverse type, and their

¹⁹ E. S. G. Robinson, *Hesperia*, Suppl. VIII (1949) 335, says of these coins "while since they are on the standard of the Chalcidic League coins they have been taken as struck after the revolt of 433/2, on grounds of style the issue may have been made ten years earlier."

²⁰ *Olynthus Ex.* IX, 292-298. Their die sequence is as follows:

P 1	P 2	P 2	P 2	P 3	P 3	P 4	P 4	P 5	P 5
1	2	3	4	5	6	7	8	9	10
A 1	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 7	A 8

²¹ Robinson and Clement, *Olynthus Ex.* IX, 87, describe their Type I punch die as shallow in design, the edges only slightly beveled beyond the incuse, and almost too

weight standard, all show the influence of the Macedonian mint. Since only one of the eight A dies has the prancing horse, it is safe to suggest that this issue was begun shortly after the first Series of heavy tetrobols started, possibly ca. 443, and ceased during the first year of Series 2, 437/6. The very heavy issue of the second Series of Perdikkas' heavy tetrobols would thus care for the monetary needs not only of the Macedonians, but also of the Chalcidians, when the latter were beginning their federation at Olynthus.

The evidence of the coins from Olynthus is of considerable interest and importance,²² although the hoards found there are of no particular significance for the coins of Perdikkas, since only one (Hoard V, buried ca. 421) might be of value in dating them and it contained only three, Series 1, no. 182, and Series 2, nos. 219 and 226. However, the numbers and types of Macedonian coins found at Olynthus have bearing on the arrangement and dating of the Series.

Light Tetrobols

<i>Series</i>	<i>P Dies</i>	<i>A Dies</i>	<i>Combinations</i>	<i>Specimens</i>	<i>Specimens from Olynthus</i>
1	14	13	17	21	3
2	14	14	14	19	2
3	5	8	8	12	0
4	3	4	6	12	1
total	36	38 ²³	45	63	6

large for the flan. All these features are characteristic of Macedonian technique. The fact that they cite as parallels tetrobols from Alexander's Group II, those with A, shows the conservatism of the mint work and the fidelity with which the Chalcidic mint followed the Macedonian.

²² Cf. *Olynthus Ex.*, III, VI, IX, and XIV. The Catalogue indicates the coins from various years and whether they came from hoards. Since only Hoard V, dated 421, could prove decisive for dating Macedonian coins, and since it contained only the three mentioned, hoard evidence has no value here.

²³ This total looks wrong, but it is because A 56 was used both in Series 1 and in Series 2.

Heavy tetrobols

<i>Series</i>	<i>P Dies</i>	<i>A Dies</i>	<i>Combinations</i>	<i>Specimens</i>	<i>Specimens from Olynthus</i>
1	14	12	19	25	8
2	17	25	39	71	23
3	10	11	12	18	8
total	41	48	70	114	39

The total of six light tetrobols as contrasted with thirty-nine heavy tetrobols from Olynthus is partly due to the fact that during the lifetime of the first three light tetrobol Series Olynthus was not yet the large town it became after the formation of the League and partly to the fact that the standard of the heavy tetrobols was that adopted by Olynthus. Nevertheless Series 3, of which no specimens come from Olynthus, is the only one chronologically suitable for representation there. An expansion of the heavy tetrobol chart shows clearly how much new material came from Olynthus.

<i>Series</i>	<i>Total</i>	<i>From Olynthus</i>	<i>Percentage from Olynthus</i>
1. specimens	25	8	32
die combs.	19	5	26 +
P dies	14	4 (1 new)	28 +
A dies	12	5 (1 new)	41 +
2. specimens	71	23	32 +
die combs.	39	16 (4 new, of old dies)	41
P dies	17	12 (1 new)	70 +
A dies	25	14 (2 new)	56
3. specimens	18	8	44 +
die combs.	12	5	41 +
P dies	10	5 (4 new)	50
A dies	11	4 (3 new)	36 +

Group IV

161

<i>Series</i>	<i>Total</i>	<i>From Olynthus</i>	<i>Percentage from Olynthus</i>
<i>all series</i>			
specimens	114	39	34 +
die combs.	70	26	37
P dies	41	21 (6 new)	51 +
A dies	48	23 (6 new)	47 +

While the same number of coins from Series 1 and Series 3, as well as the same number of die combinations, was found at Olynthus, the proportions run considerably higher for the latest Series. It will also be noticed that the number of new dies from Olynthus is highest in Series 3. These figures are consistent with the fact that Olynthus was striking her own coins during part of the time Series I was struck; the abrupt cessation of these coins shortly after the beginning of the Macedonian Series 2 heavy tetrobols made the need for Perdikkas' coins the greater. During the period between the founding of Amphipolis in 437 and the outbreak of the Peloponnesian War, the Chalcidians who were gathering at Olynthus relied on the output of the Macedonian mint; the discontinuance of the purely Olynthian types is consistent with the plan for a League or Federation, to which the personality of "Olynthus" was to be subject. The evidence from Series 3 indicates that although Perdikkas was induced to join Phormio's expedition against Olynthus in 431 (Thuc. II, 29) trade continued between Macedonia and Olynthus.

For comparative purposes the first three groups of Chalcidic League tetrobols are given; the date are those assigned by Robinson and Clement on the basis of the number of dies in each group.

	<i>P Dies</i>	<i>A Dies</i>	<i>Combs.</i>	<i>Specimens</i>	<i>Specimens from Olynthus</i>
Gr. A (432/1-430)	3	5	6	14	5
Gr. B. (430-427)	5	8	10	22	9
Gr. C. (427-421)	13	17	20	43	12

The total known specimens of Groups A and B, thirty-six, are fewer than the Macedonian tetrobols found at Olynthus, and the number from the site itself, fourteen, is in sharp contrast to the twenty-three tetrobols of Series 2 found there. Although it was not unnatural for Robinson and Clement to start with the year 432/1 as the *terminus post quem* for the Chalcidic League issues, and to base subsequent dates upon the number of dies and combinations, the evidence of Macedonian mint technique, which the Chalcidians borrowed, and of the coins of Perdikkas indicate that the starting year for the League coins should be at least one year later, probably coinciding with Perdikkas' cooperation with Phormio in 431. Group A shows the normal activity of one P die with three A dies and can be assumed to have lasted about two years; the dies become very worn before being replaced by those of Group B, a fact which may be attributed to lack of communication with Macedonia and a subsequent scarcity of workmen capable of making new dies. In Group B, where there are ten die combinations, there is an instance of one A die being used with three P dies, from which we may conclude that the issue was heavily struck, over a shorter period of time than the three years assigned. In Group C, there is another sign of great production in the use of one P die with four A dies. Therefore I should suggest the following dates for the first three Groups of Chalcidic League coins: Gr. A, 431/0-430/29; Gr. B, 429/8-427/6; Gr. C, 426/5-421. This would take into account the evidence of the Macedonian coins found at Olynthus, where Series 2 (437/6-432/1) is largely represented and Series 3 (431/0-425/4) is less well represented than Groups B and C of the League coins.

Series 3, 431/0-425/4, PLATE XV

The third Series of heavy tetrobols, with a prancing horse obverse, but with few additional symbols, is only scantily linked and gives no hint of its duration. The percentage of new dies from Olynthus is highest for this Series, but no more coins than of Series 1 were found

there. The terminal date has been given as 425/4 merely as a suggestion. There are two possibilities: (1) There may have been a number of years in the middle twenties of the fifth century when Perdikkas was too involved with Philip, Derdas, Seuthes and Sitalkes, and the Athenians, to strike coins; indeed the mines themselves may have been shut down during hostilities. The heavy striking of Group C of the Chalcidic League coins may point to a return of the favor done the Chalcidians by Perdikkas and he may have relied on their mint output. (2) There may have been a rather long period when Series 3 was being struck at even less than the normal rate of the mint, and the Series may have lasted until 420, when the League started issuing tetradrachms. While we know that Perdikkas refused the amount he had promised to Brasidas after the expedition against the Lyncestians (Thuc. IV, 79-128), that action seems to have been based on indignation rather than on financial embarrassment. Actually, the most that can be said is that the third Series must have ended well before the beginning of the fourth Series of light tetrobols, struck near the end of Perdikkas' reign in a style entirely different from all his other coins.

3. FRACTIONAL ISSUES, PLATE XI, d-g.

There are four varieties of fractional issues, all apparently obols, which are identifiable with Group IV. The first, PLATE XI, d, is the only one with a simple four-part linear square in an incuse on the reverse. Its obverse is a bridled horse tethered to a ring, a type closely similar to the obverse of the Olynthian tetrobols struck at this time. The second variety PLATE (XI, e) has a similar obverse, but the reverse has the forepart of a lion with ΓΕΡ surrounding it. This type should belong with the heavy Series, and probably the first variety as well, but the weights are inconclusive. I do not know the weight of the coin of the first variety (from Brussels); the two specimens of the second variety (London, *BMC Mac.*, p. 162, 2, illustrated here, and

11*

Copenhagen, SNG, 497)²⁴ wts. .64 and .55 respectively, might be obols on either standard, since the norms are .61 and .54. These two varieties are to be dated between 443/2 and 432/1, from their style and types; probably they are on the heavy standard.

The two other varieties show completely new types and foreshadow the fourth century issues, but since both have ΓΕΡ on the reverse there can be no doubt about their assignment. The first (London, wt. .76, PLATE XI, f) has a beautiful, strong head of Herakles in his lion-skin on the obverse and on the reverse his bow and club diagonally arranged within the incuse, the spaces filled with the letters ΓΕΡ. The choice of the Heraklean type can easily be justified by the Argive ancestry of the Macedonian kings, here for the first time clearly marked on the coins. It has already been suggested that the lion forepart contains a remote reference to Herakles, but that type has an uncompromising anonymity.²⁵ The weight may be that of a trihemiobol on the light standard (norm .81); since this and the following variety must have been struck near the end of Perdikkas' life, when he was striking only light tetrobols, it is to be assumed that the light standard prevailed. The second variety is known to me from only one example (Hirsch, 1909, 471, PLATE XI, g). The obverse, with the forepart of a galloping horse, recalls the earlier and larger fractions of Alexander (PLATES V, d and e; IX, c; XI, c); its reverse has the forepart of a boar, with one leg bent, and faint traces of a club above, with the letters ΓΕΡ. This reverse is anticipatory of the reverses of bronze pieces assigned to Amyntas III (cf. *BMC Mac.* p. 172, 9 and *G. AMNG*, III, 2, Pl. 30, 4 and 5). While it is not safe to draw any conclusions from the weight of one small coin, it is worth remarking that this is the lightest fraction known to me, wt. .40. It may therefore be a coin of Perdikkas III although by the second quarter of the fourth century fractional pieces were regularly issued

²⁴ The Copenhagen coin appears to lack the ring to which the horse is tethered. As the coin is worn it is impossible to tell from cast or photograph whether it was there originally.

²⁵ Cf. Chapter III.

in bronze, rather than silver. It would seem that the only possible significance of the boar is Heraklean, but some unrecorded alliance or amity may have made the Calydonian boar significant as a minor coin type. On the whole it is more probable that this coin should be assigned to Perdikkas II, not least because the style of the half-horse on the obverse is very like that of the horses on the fourth Series of light tetrobols (cf. PLATE XIII, nos. 170-175).

4. CONCLUSION.

While the coins of Perdikkas do not answer all questions about the events of his reign, they do illuminate fifth century history to a considerable extent. At the beginning of his reign he continued his father's policy of cooperation with Athens by striking only light tetrobols. He was busy keeping his kingdom intact against the efforts of his brothers and his uncles and his cousins. The coins indicate his success, since they are homogeneous, if dull. At a date no longer precisely determinable, but between 446/5 and 443/2, he revived the issue of heavy tetrobols which had not been struck since ca. 454, and struck them at more than the normal rate for the Macedonian mint for over six years. Shortly after the beginning of this issue Perdikkas made friendly overtures to Olynthus and the Chalcidians, going so far as to provide the means for Olynthus to strike her own coins for the first time since the final expulsion of the Persians in 479,²⁶ or possibly even striking the coins in the Macedonian mint. This almost certainly was a counter-move to the Athenian plan for Amphipolis. There is every likelihood that Perdikkas' hostile relatives were also involved; certainly the subsequent alignment of Philip and Derdas (Thuc. I, 57, 59-61) with Athens, and the agreement with Sitalkes (Thuc. II, 95 ff.) indicate Athenian diplomatic manoeuvring in the north. The map reveals the value of Olynthus to Perdikkas; it could serve as a bulwark against Athens more readily accessible to him than

²⁶ Cf. my article in *Studies Presented to David M. Robinson*, II, pp. 197-200.

Potidaea, or than Acanthus, which was nearer the proposed site of Amphipolis. Since the coin types used by the Chalcidians in 479 were from those of the tribal alliance, even though the weight standard was not, it may be concluded that there were traditional ties between the Chalcidians and Macedonians, which did not exist in the case of Potidaea, a Corinthian colony, or Acanthus, both of which used types unrelated to those of the tribal alliance. The second Series of heavy tetrobols, beginning in the year after the foundation of Amphipolis, was very heavy to supply the needs both of the Macedonians and of the Chalcidians, who, by 436, must have been starting to assemble at Olynthus. It has already been pointed out that the treaty between Athens and the Macedonians, *IG I² 71*, cannot be dated to this year.

The start of hostilities in the north brought about a breach between Perdikkas and the Chalcidians for a time at least, and Perdikkas' coins decreased in numbers. The events of the war years thus leave only a negative trace: perhaps some of his hostile relatives gained a foothold in the interior and shut off his supply of metal. This might account for the cessation of his heavy tetrobols, the absence of any coins for some years, and the use of some plated coins in his final Series of light tetrobols. This suggestion would have more weight if there were any coins assignable to his rivals during this, or any other, period. Since there are none, one can only say that Macedonian coins ceased entirely to be minted for some ten years and that there was a brief final issue by Perdikkas at the end of his life, again on the standard that was the equivalent of the Attic.

Although Perdikkas had not gained all that he hoped for from the formation of the Chalcidic League, he at least assured the perpetuation of one of the old tribal types, Apollo, and of the tribal weight standard, since they were adopted and continued by the League. The tetradrachms are half the octadrachms of 29.46, with a norm of 14.73, not on the Phoenician standard as they are usually described. The Chalcidians preserved the standard until it again came into Macedonian use under Philip II.

KEY TO PLATES

PLATE I.

- | No. | Source. |
|-----|---|
| 1. | Naville, 1922, 429 |
| 2. | Berlin (<i>B.B.</i> II, p. 166, 12) |
| 3. | Naville, 1925, 388. |
| 4. | <i>McClean Coll.</i> II, 3098. |
| 5. | Gillet Coll. |
| 6. | Locker-Lamson Coll. 152 |
| 7. | London (<i>BMC Mac.</i> , p. 37, 2) |
| 8. | Berlin (<i>AMNG</i> III, 2, p. 19, 5) |
| 9. | Naville, 1928, 416 |
| 10. | May Coll. |
| 11. | Naville, 1921, 695 |
| 12. | Berlin (<i>AMNG</i> , III, 2, p. 20, 16) |
| a. | Paris (<i>BT</i> I, 2, 1) |
| b. | London (<i>BMC Ionia</i> , p. 2, 4) |
| c. | London (<i>BMC Ionia</i> , p. 3, 6) |
| d. | London (<i>BMC Ionia</i> , p. 2, 2) |
| e. | Hirsch, 1908, 2736 |
| f. | London (<i>BMC Ionia</i> , p. 116, 1) |
| g. | London (<i>BMC Ionia</i> , p. 9, 42) |
| h. | Hirsch, 1908, 2735 |
| i. | London (<i>BMC Ionia</i> , p. 2, 5) |
| j. | London (<i>BMC Ionia</i> , p. 13, 58) |

PLATE II

- | No. | Source. |
|-----|--|
| 1. | Paris (<i>BT</i> , I, 2, 1489) |
| 2. | London (<i>BMC Mac.</i> , p. 140, 2) |
| 3. | <i>Hunter Coll.</i> I, p. 268, 2 |
| 4. | A. M. Newell Coll. |
| 5. | <i>Weber Coll.</i> 1847 |
| 6. | Boston (<i>Warren Coll.</i> 554) |
| 7. | Paris (<i>BT</i> , I, 2, 1513 a) |
| 8. | Munich (<i>Falsch.</i> p. 200, 4 b) |
| 9. | Brussels (<i>Falsch.</i> p. 201, 7 a) |
| 10. | Berlin (<i>B.B.</i> II, p. 162, 1) |
| 11. | London (<i>BMC Mac.</i> , p. 76, 1) |

- | | |
|-----|---------------------------------------|
| 12. | Paris (<i>BT</i> , I, 2, 1667) |
| 13. | London (<i>BMC Mac.</i> , p. 146, 3) |
| 14. | Sotheby, 1909, 184 |
| 15. | Feuardent Coll. |
| 16. | <i>Jameson Coll.</i> 963 |
| 17. | <i>Weber Coll.</i> 1896 |
| 18. | ANS - ETN |
| 19. | Copenhagen, <i>SNG</i> , 478 |
| 20. | ANS - ETN |
| 21. | Naville, 1927, 679 |

PLATE III

- | No. | Source. |
|-----|----------------------------------|
| 1. | Paris (<i>BT</i> , I, 2, 1517) |
| 2. | Brussels |
| 3. | Brussels |
| 4. | <i>Hunter Coll.</i> I, p. 283, 2 |
| 5. | Gillet Coll. |
| 6. | A. M. Newell Coll. |
| 7. | Copenhagen, <i>SNG</i> , 493 |

PLATE IV

- | No. | Source. |
|------|--|
| 8a. | Copenhagen, <i>SNG</i> , 484 |
| 10a. | <i>McClean Coll.</i> II, 3273 |
| 11a. | <i>Weber Coll.</i> 2010 |
| 12a. | ANS - ETN |
| 14b. | Sotheby, 1909, 419 |
| 15a. | Vienna |
| 16a. | Dewing Coll. |
| 17a. | Paris (<i>de Luynes</i> , 1926, 1576) |
| 21b. | Copenhagen, <i>SNG</i> , 492 |

PLATE V

- | No. | Source |
|------|------------------------------------|
| 23a. | Boston, R 620 |
| 24a. | Lockett Coll. <i>SNG</i> , 3, 1382 |

- 25d. Berlin (*Z/N*, III [1876] 52)
- 26a. London
- 27a. Empedocles Coll.
- 28a. Hess, 1926, 165
- 29a. Hirsch, 1905, 1048
- 30a. London
- 31a. ANS – ETN
- 32b. Cahn, 1933, 235
- 33c. Berlin (Löbbecke)
- 34b. Berlin (Imhoof)
- 35a. Copenhagen, *SNG*, 485
- 38d. Berlin (*B.B.* II, p. 183, 6)
- 39a. London
- 40c. London (*BMC Mac.*, p. 159, 4)
- 41a. London (*BMC Mac.*, p. 159, 5)
- 42a. Dewing Coll.
- 43a. ANS – ETN
- 44a. May Coll.
 - a. Munich (*HPM*, pl. XII, 23)
 - b. London (*BMC Mac.*, p. 157, 6)
 - c. Cambridge, *SNG*, IV, 3, 2001.
 - d. Paris (*BT*, I, 2, 1511)
 - e. Berlin (Löbbecke)

PLATE VI

- | No. | Source |
|------|--|
| 45a. | <i>Hunter Coll.</i> I, p. 283, 1 |
| 46a. | Boston, R 615 |
| 48a. | London (<i>BMC Mac.</i> , p. 156, 2) |
| 49a. | Paris (<i>BT</i> , I, 2, 1500) |
| 50a. | London (<i>BMC Mac.</i> , p. 156, 1) |
| 51a. | Naville, 1921, 815 |
| | <ul style="list-style-type: none"> a. Naples b. Brussels |

PLATE VII

- | No. | Source. |
|------|---------------------------------------|
| 53a. | London (<i>BMC Mac.</i> , p. 157, 3) |
| 55a. | Paris (<i>BT</i> , I, 2, 1501) |
| 57a. | Vienna |
| 66b. | London (<i>BMC Mac.</i> , p. 157, 5) |
| 67a. | Lockett Coll. <i>SNG</i> , 3, 1381 |
| 68b. | Boston, R 616 |

- 69a. Hirsch, 1909, 461
- 70b. Naville, 1921, 817
- 71a. Gotha
- 72b. Paris (*BT*, I, 2, 1502)
- 73a. Vienna
- 74a. Berlin
- 75b. London (*BMC Mac.*, p. 157, 4)

PLATE VIII

- | No. | Source. |
|------|--|
| 76a. | Helbing, 1929, 2814 |
| 77a. | <i>McClean Coll.</i> II, 3284 |
| 78a. | <i>Hunter Coll.</i> I, p. 284, 5 |
| 79a. | Copenhagen, <i>SNG</i> , 490 |
| 80a. | Berlin |
| 81a. | <i>McClean Coll.</i> II, 3285 |
| 82a. | Noe Coll. |
| 83a. | London (<i>BMC Mac.</i> , p. 160, 10) |
| 84a. | ANS – ETN |
| 85a. | Vienna |
| 86b. | Munich |
| 87a. | Copenhagen, <i>SNG</i> , 489 |
| 88a. | Gotha |
| 89a. | ANS – ETN |
| 90a. | Hamburger, 1930, 18 |
| 91a. | Munich |
| 92a. | ANS – ETN |
| 93a. | London (<i>BMC Mac.</i> , p. 160, 12) |
| 94b. | Athens, <i>NNM</i> , 1365 |
| 95a. | London (<i>BMC Mac.</i> , p. 160, 11) |

PLATE IX

- | No. | Source. |
|-------|--|
| 96a. | Berlin |
| 97a. | Paris (<i>BT</i> , I, 2, 1523) |
| 98a. | Glendining, 1927, 588 |
| 99b. | Paris |
| 100a. | Copenhagen, <i>SNG</i> , 491 |
| 101a. | London, <i>BMC Mac.</i> , p. 160, 13) |
| 102a. | Athens, <i>NNM</i> . |
| 103a. | London (<i>BMC Mac.</i> , p. 160, 14) |
| 104a. | Munich |
| 105a. | <i>McClean Coll.</i> II, 3289 |

- 106a. Vienna
 107b. Berlin
 a. London (*BMC Mac.*, p. 160, 15)
 b. ANS – ETN
 c. Yale Coll.
 d. London (*BMC Mac.*, p. 158, 15)
 e. London (*BMC Mac.*, p. 160, 16)
 60a. A. M. Newell Coll.
 62b. Berlin
 63a. Paris (*BT*, IV, 2, 806)

PLATE X

- | No. | Source. |
|-------|-------------------------------------|
| 108a. | Berlin (<i>B.B.</i> II, p. 181, 1) |
| 109a. | Gillet Coll. |
| 110a. | Berlin (Löbbecke) |
| 111a. | Paris |
| 112a. | Paris |
| 113a. | <i>Weber Coll.</i> 2019 |
| 114b. | Paris (<i>BT</i> , IV, 2, 807) |
| 115a. | Gillet Coll. |
| 116a. | D. M. Robinson Coll. |
| 117a. | Munich |

PLATE XI

- | No. | Source. |
|-------|--|
| 118a. | London (<i>BMC Mac.</i> , p. 161, 19) |
| 120a. | Sotheby, 1909, 420 |
| 121b. | Paris (<i>BT</i> , IV, 2, 787) |
| 122a. | Paris (<i>BT</i> , IV, 2, 799) |
| 125a. | Paris |
| 126a. | London (<i>BMC Mac.</i> , p. 159, 7) |
| a. | Delepierre Coll. 2318 |
| b. | ANS – ETN |
| c. | Copenhagen, <i>SNG</i> , 488 |
| d. | Brussels |
| e. | London (<i>BMC Mac.</i> , p. 162, 2) |
| f. | London (<i>BMC Mac.</i> , p. 163, 3) |
| g. | Hirsch, 1909, 471 |
| 131a. | Gotha |
| 132b. | Naville, 1929, 1133 |
| 133a. | Gotha |
| 135a. | Cambridge, <i>SNG</i> , IV, 3, 2007 |

- 136a. Brussels
 137a. ANS – ETN
 138a. ANS – ETN
 139a. *Olynthus Ex.*, VI, 164
 140a. Empedocles Coll.
 141a. Munich
 143a. London (*BMC Mac.*, p. 159, 6)
 144a. ANS – ETN

PLATE XII

- | No. | Source. |
|-------|--|
| 145a. | ANS – ETN |
| 146a. | Munich |
| 147a. | Helbing, 1928, 3816 |
| 148a. | Ratto, 1927, 511 |
| 149a. | Copenhagen, <i>SNG</i> , 487 |
| 150a. | Paris (<i>BT</i> , I, 2, 1525) |
| 151a. | D. Raymond Coll. |
| 152a. | <i>Olynthus Ex.</i> III, 76 |
| 154a. | ANS – ETN |
| 155a. | Brussels |
| 156a. | Empedocles Coll. |
| 157a. | Paris (<i>de Luynes</i> , 1926, 1580) |
| 158a. | Paris (<i>BT</i> , IV, 2, 800) |
| 159a. | Boston, C & M, 1249 |
| 160a. | Munich |
| 161a. | <i>McClean Coll.</i> II, 3287 |
| 162a. | London, (<i>BMC Mac.</i> , p. 159, 8) |
| 163a. | Naville, 1928, 456 |
| 164a. | Cahn Coll. |
| 165b. | Copenhagen, <i>SNG</i> , 495 |
| 166a. | Berlin (<i>B.B.</i> II, p. 184, 2) |
| 167a. | Berlin |
| 168a. | Gotha |
| 169a. | ANS – ETN |

PLATE XIII

- | No. | Source. |
|-------|---------------------------------------|
| 170b. | Paris (<i>BT</i> , IV, 2, 803) |
| 171a. | <i>Weber Coll.</i> 2023 |
| 172a. | <i>Olynthus Ex.</i> VI, 165 |
| 173c. | London (<i>BMC Mac.</i> , p. 162, 1) |
| 174a. | Berlin (<i>B.B.</i> II, p. 184, 1) |

- 175a. *McClean Coll.* II, 3288
 176a. ANS – ETN
 177a. Gotha
 178a. *Olynthus Ex.* VI, 150
 180a. Brussels
 181a. *Jameson Coll.* 972
 182a. *Olynthus Ex.* VI, 148
 184a. Naville, 1923, 1337
 185b. ANS – ETN
 186a. *Hunter Coll.* I, p. 284, 3
 187a. Vienna
 188a. ANS – ETN
 189a. Munich
 190a. Munich
 191a. Empedocles Coll.
 193a. Helbing, 1927, 1687
 194a. London
 195b. Copenhagen, *SNG*, 498
 196b. *Olynthus Ex.* IX, p. 229, 1 a

PLATE XIV

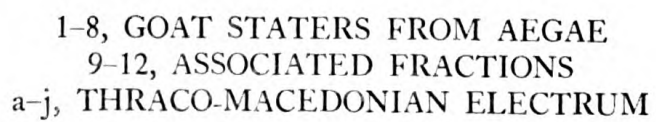
- | No. | Source. |
|-------|--|
| 197a. | Cahn, 1952, 124 |
| 198a. | London (<i>BMC Mac.</i> , p. 161, 20) |
| 199a. | <i>Olynthus Ex.</i> IX, p. 230, 7 |
| 200a. | London (<i>BMC Mac.</i> , p. 161, 25) |
| 201b. | <i>Olynthus Ex.</i> VI, 161 |
| 202a. | Cahn, 1935, 615 |
| 203c. | London |
| 204a. | Copenhagen, <i>SNG</i> , 501 |
| 205c. | Brussels |
| 206a. | <i>Olynthus Ex.</i> VI, 160 |
| 207a. | ANS – ETN |
| 208a. | <i>Olynthus Ex.</i> III, 17 |
| 209a. | Vienna |
| 210a. | Vienna |
| 211a. | Ratto, 1927, 514 |
| 212a. | Munich |

- 213a. ANS – ETN
 214a. *Olynthus Ex.* VI, 155
 215a. ANS – ETN
 216a. Berlin (*B.B.* II, p. 184, 3)
 217a. (obv.) London (*BMC Mac.*, p. 161, 27)
 (rev.) *Olynthus Ex.* IX, p. 230, 6
 218a. Vienna
 219b. London
 220a. Hamburger, 1928, 24

PLATE XV

- | No. | Source. |
|-------|--|
| 221a. | Ratto, 1929, 238 |
| 222b. | ANS – ETN |
| 223a. | <i>Olynthus Ex.</i> III, 18 |
| 224a. | Munich |
| 225a. | London (<i>BMC Mac.</i> , p. 161, 28) |
| 226b. | <i>Olynthus Ex.</i> VI, 157 |
| 227a. | ANS – ETN |
| 228a. | Munich |
| 229a. | Empedocles Coll. |
| 230b. | London (<i>BMC Mac.</i> , p. 161, 26) |
| 231a. | Cambridge, <i>SNG</i> , IV, 3, 2010 |
| 232a. | <i>Olynthus Ex.</i> IX, p. 230, 4 c |
| 233a. | <i>Olynthus Ex.</i> VI, 162 |
| 234a. | Cambridge, <i>SNG</i> , IV, 3, 2011 |
| 235c. | Munich |
| 236b. | Empedocles Coll. |
| 237a. | Vienna |
| 238a. | Paris (<i>BT</i> , IV, 2, 794) |
| 239a. | Paris (<i>BT</i> , IV, 2, 793) |
| 240a. | <i>Olynthus Ex.</i> III, 15 |
| 241a. | ANS – ETN |
| 242b. | <i>Olynthus Ex.</i> IX, p. 230, 4 a |
| 243a. | <i>Olynthus Ex.</i> IX, p. 230, 4 d |
| 244a. | <i>Olynthus Ex.</i> VI, 159 |

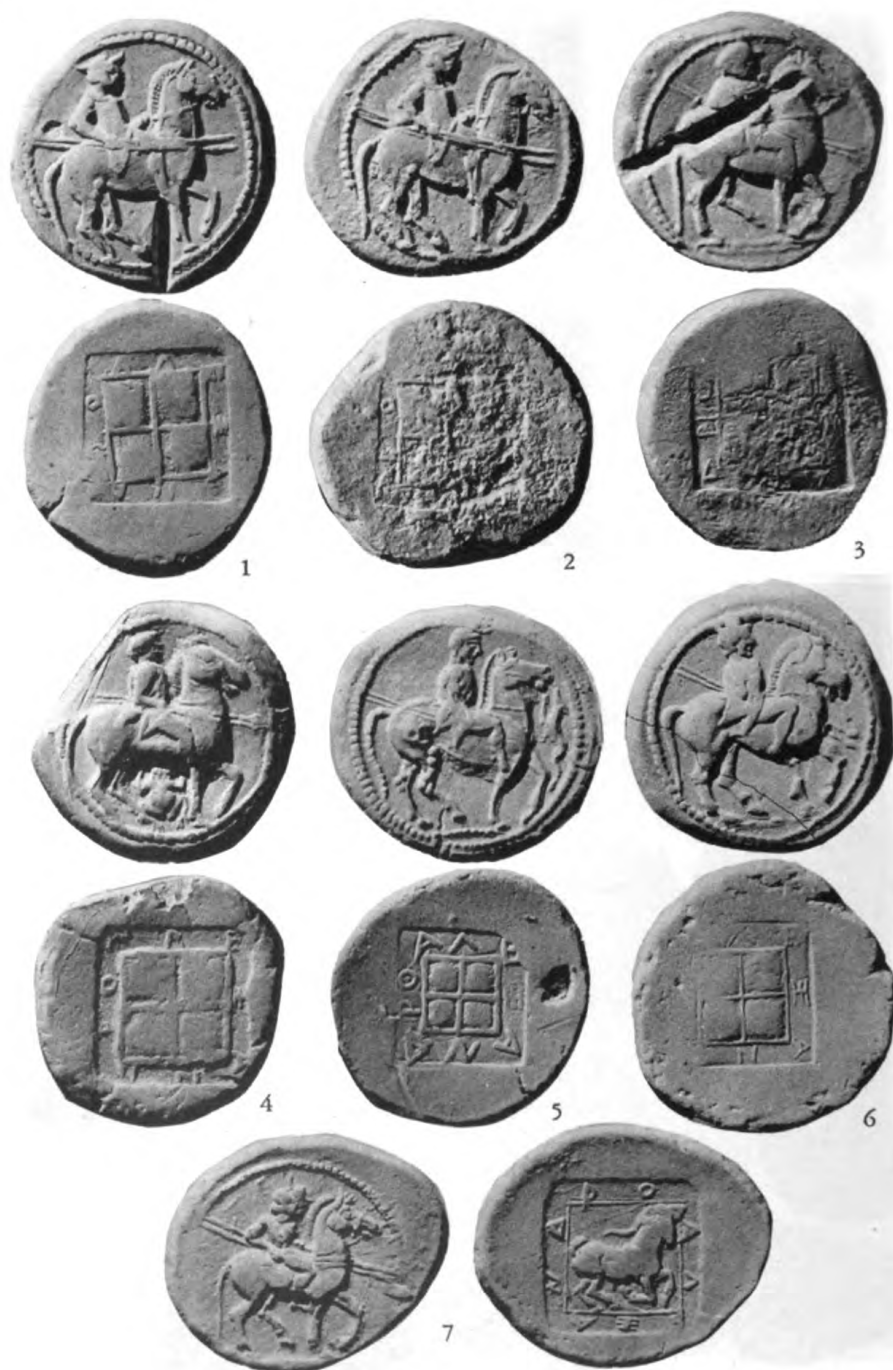
PLATES





TRIBAL ALLIANCE COINAGE

III



GROUP I

IV



8a



10a



11a



12a



14b



15a



16a



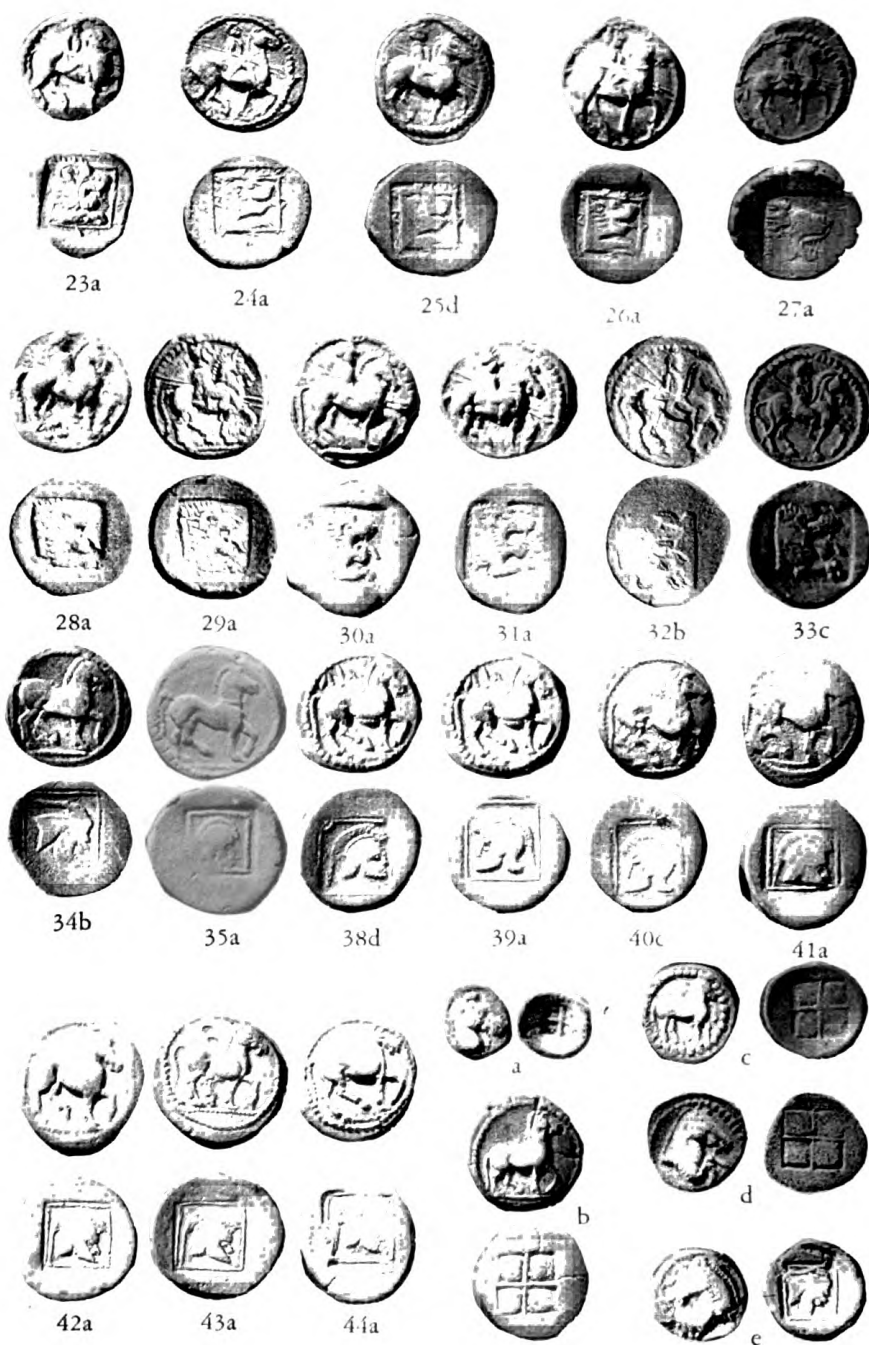
17a



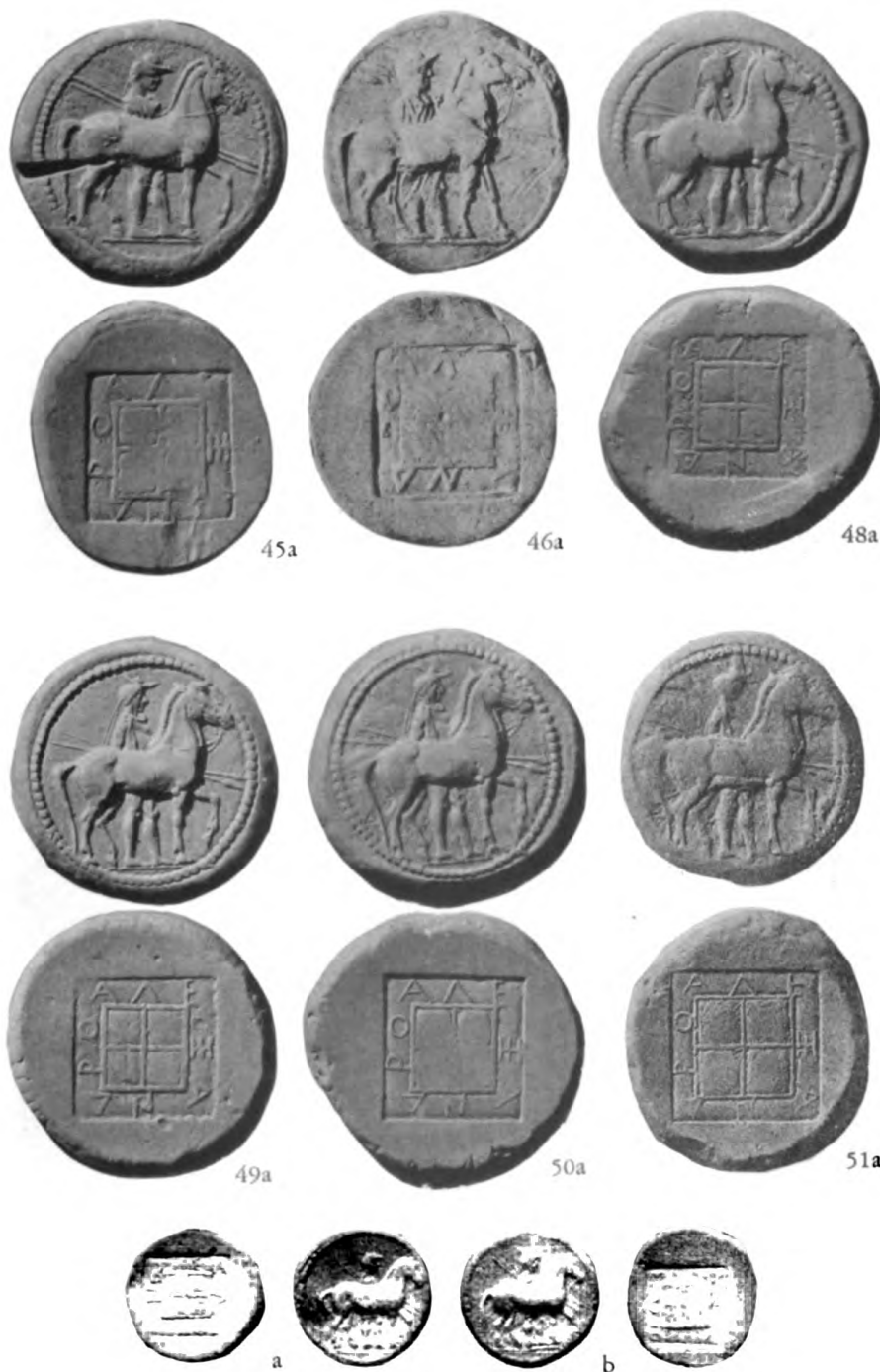
21b

GROUP I

V



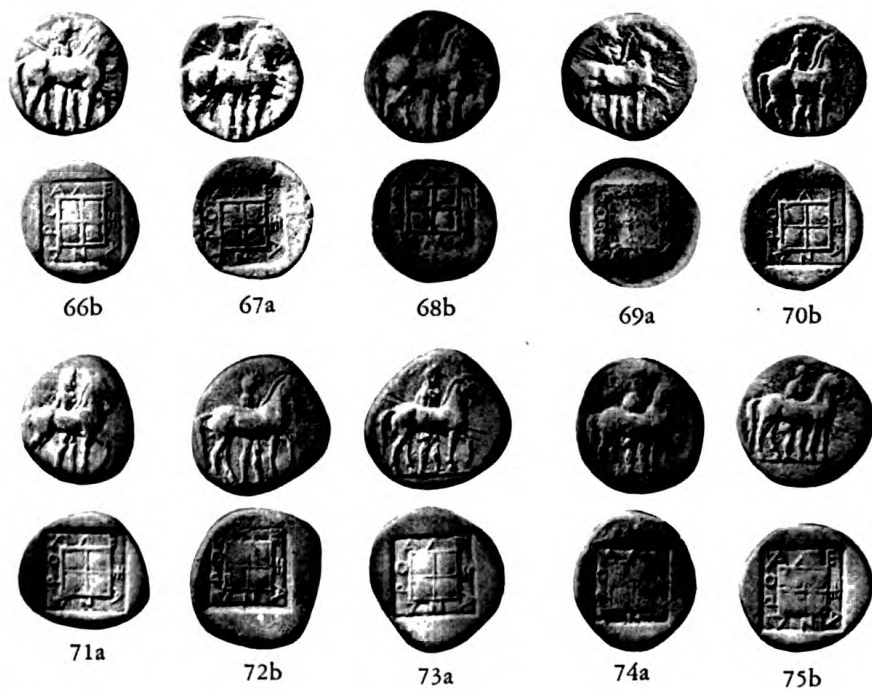
GROUP I



GROUP II

a and b "ALLIANCE" OCTOBOLS

VII

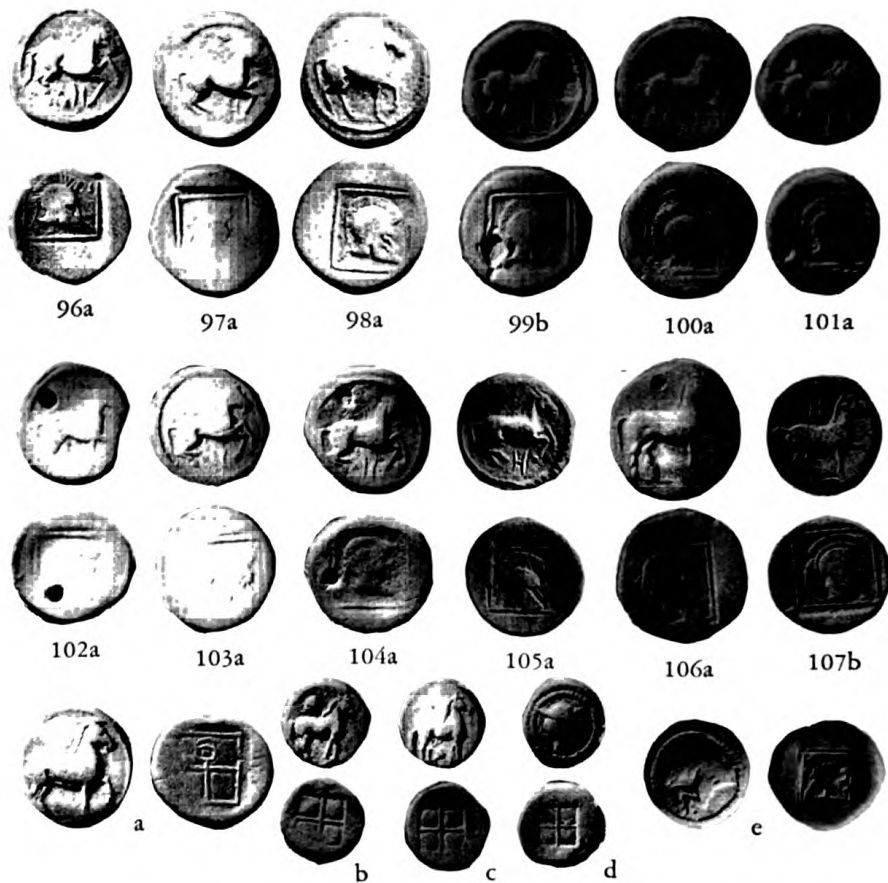


GROUP II



GROUP II

IX



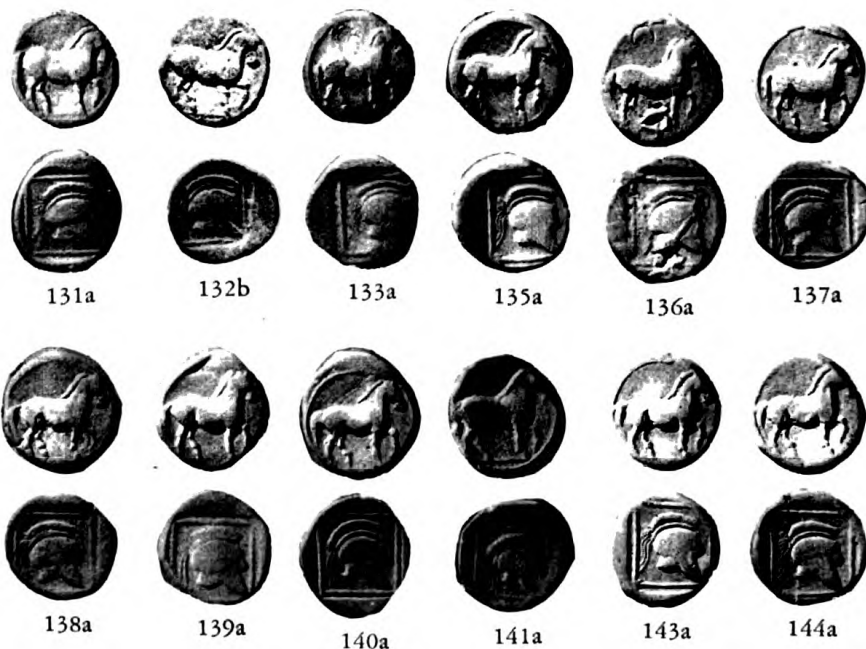
GROUP II

X

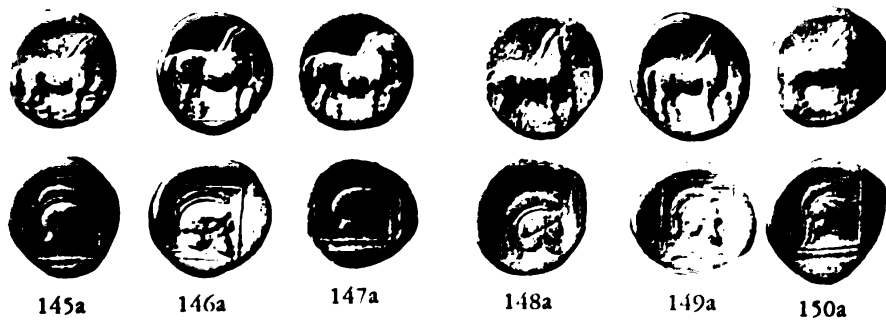


GROUP III

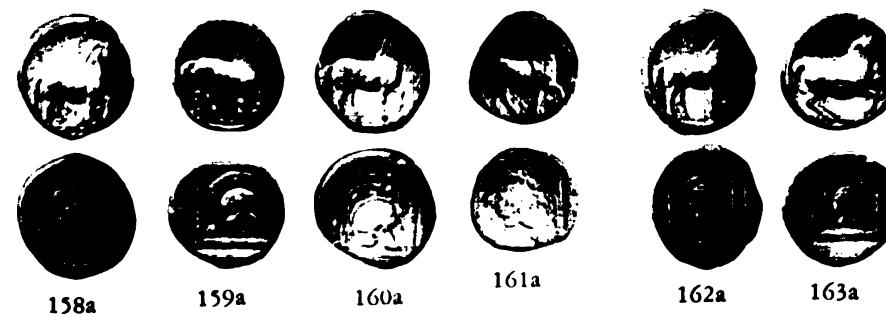
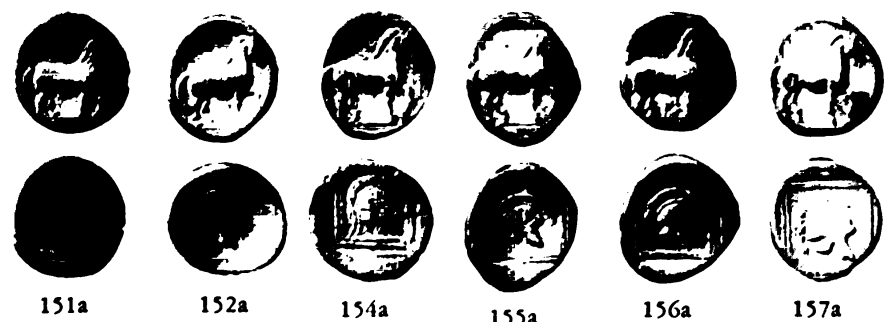
XI



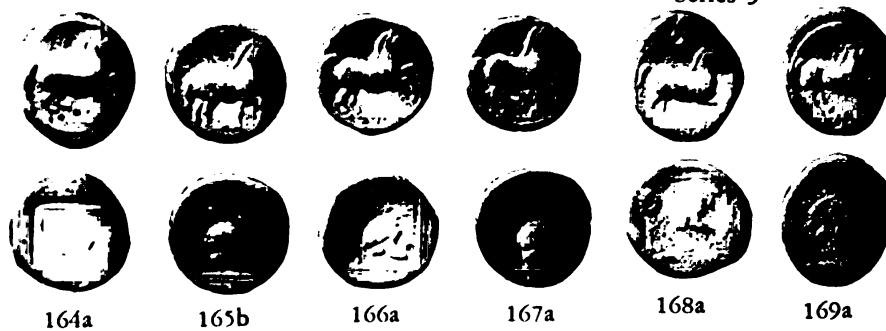
GROUP IV



Series 2

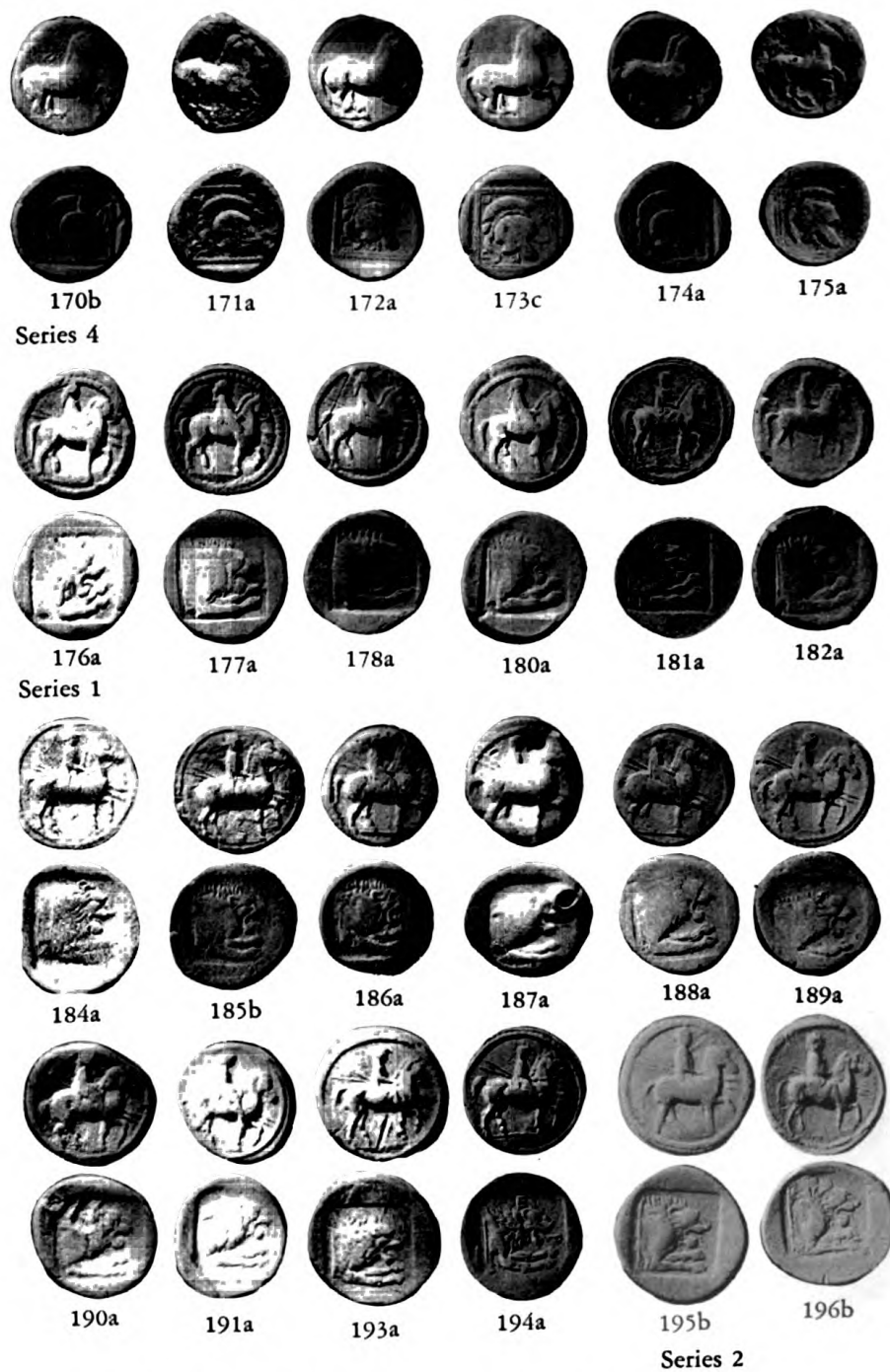


Series 3

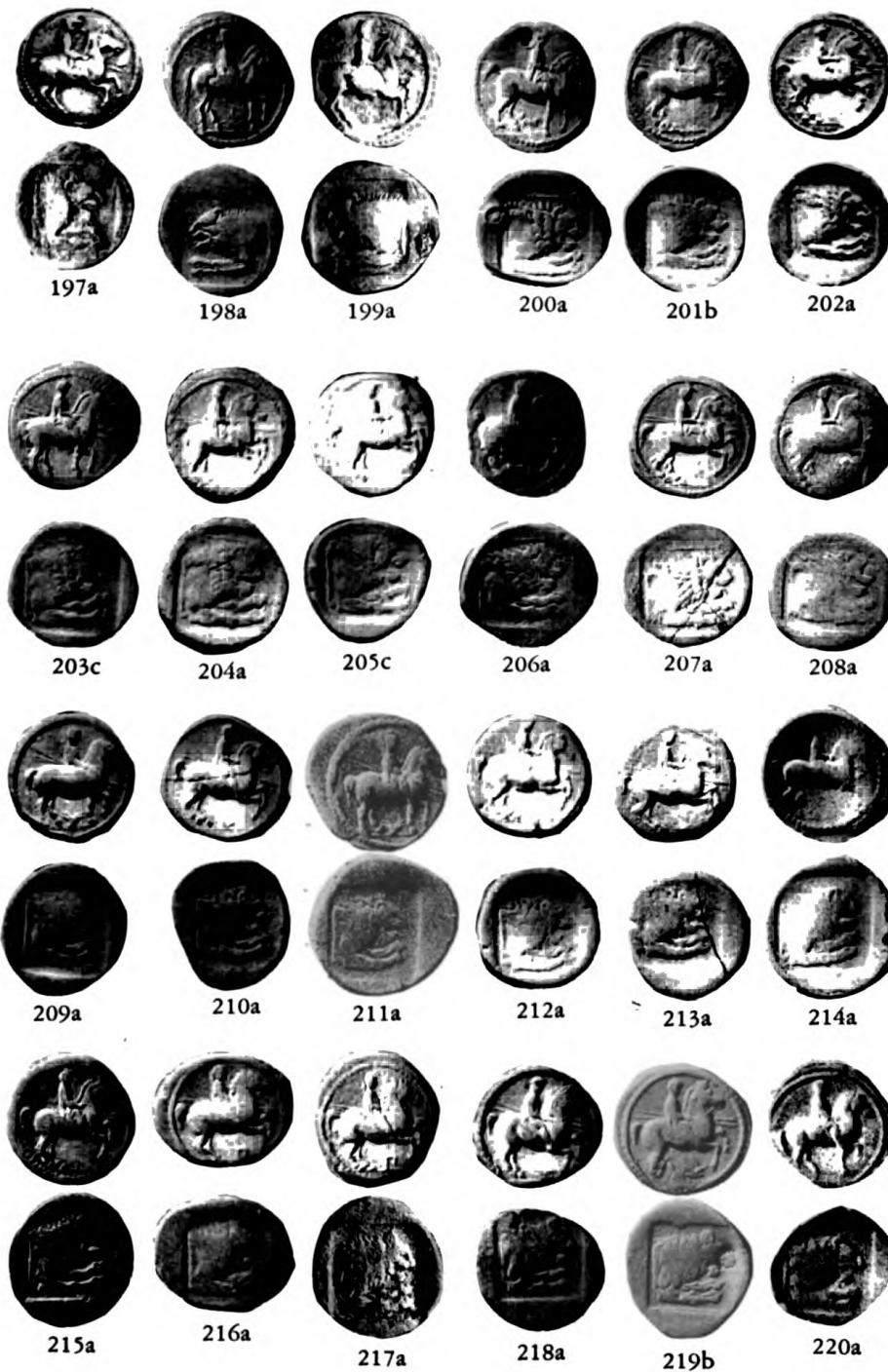


GROUP IV, LIGHT TETROBOLS

XIII



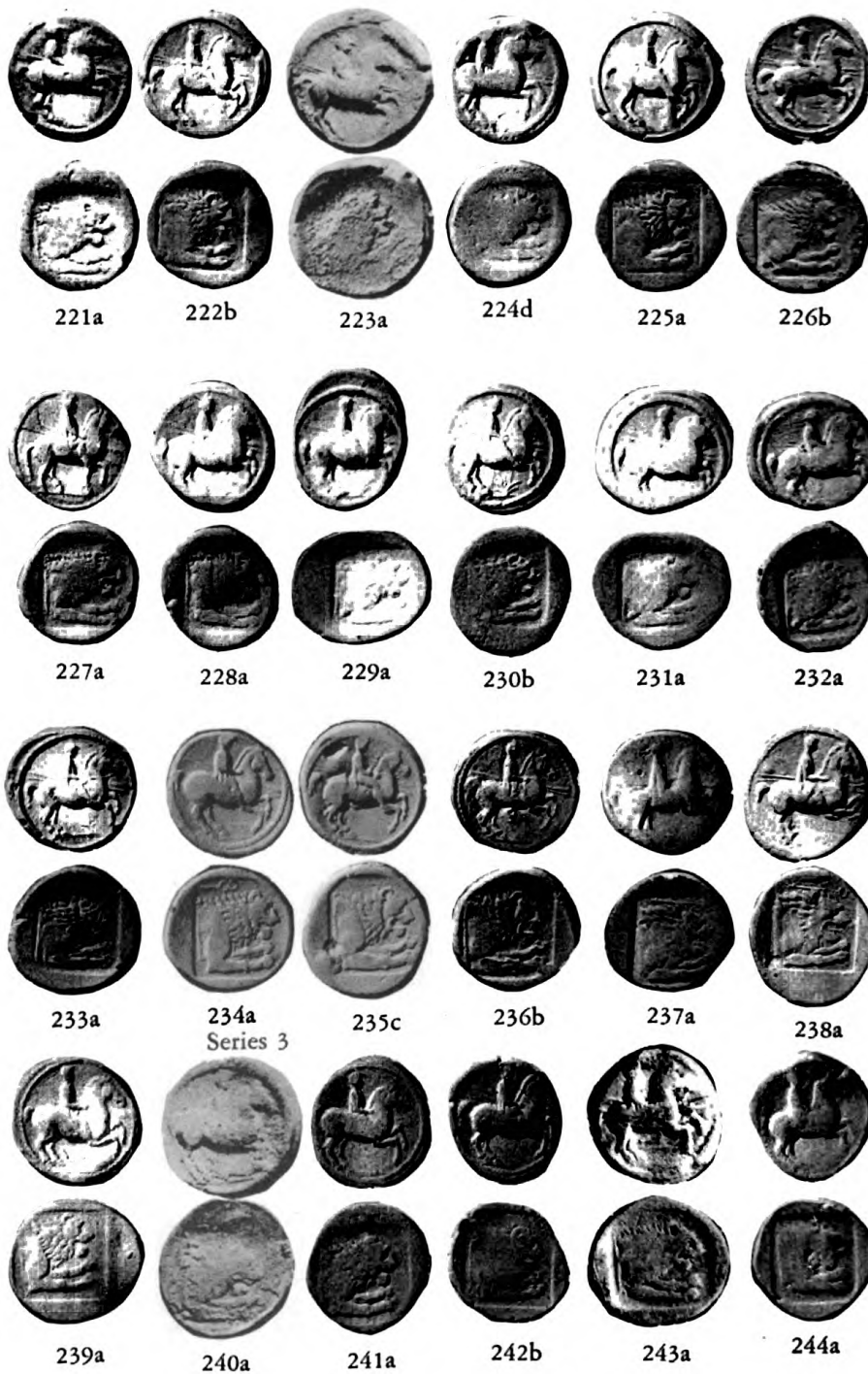
GROUP IV: LIGHT TETROBOLS, Series 4
HEAVY TETROBOLS, Series 1 and 2



GROUP IV: HEAVY TETROBOLS, Series 2



GROUP IV: HEAVY TETROBOLS, Series 2 and 3



GROUP IV: HEAVY TETROBOLS, Series 2 and 3

Le.

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